



USER MANUAL

This document describes how to administer ALCASAR with the ALCASAR Control Center (ACC) or by using Linux command lines.

Project : ALCASAR	Author : Rexy and 3abtux with support of « ALCASAR Team ». Thanks to the main translator (Clément).
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1. Introduction

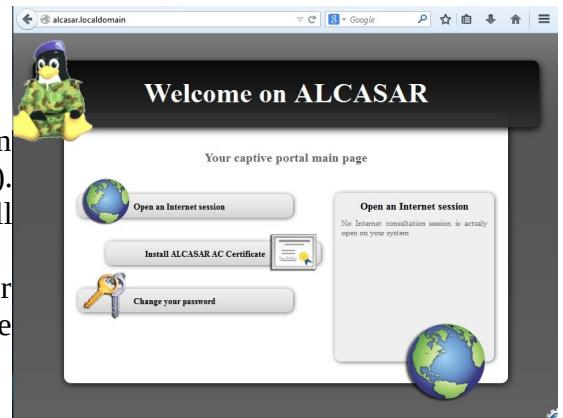
ALCASAR is a free and open-source Network Access Controller (NAC). This paper describes how to use it and how to administer it.

The following screenshot is displayed for users attempting to access **an HTTP** website. This page is available in English, Spanish, German, Dutch, French and Portuguese depending on the browser's settings. As long as the user is not logged in, no traffic will pass through ALCASAR.



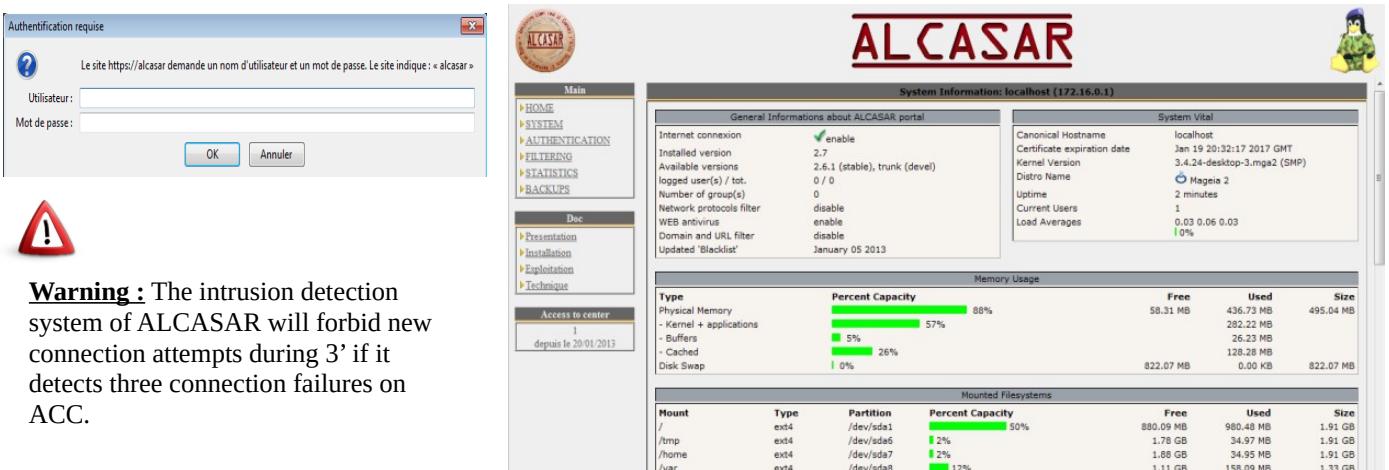
The homepage of the portal is available for any browser connected on the network. The URL is <http://alcasar> (or <http://alcasar.localdomain>). From there, users can log on, log out, change their password and install the security certificate into their web browsers.

Administrators can access the graphical ALCASAR Control Center (A.C.C) by clicking the little notched wheel at the bottom right of the page (or via <https://alcasar.localdomain/acc>).



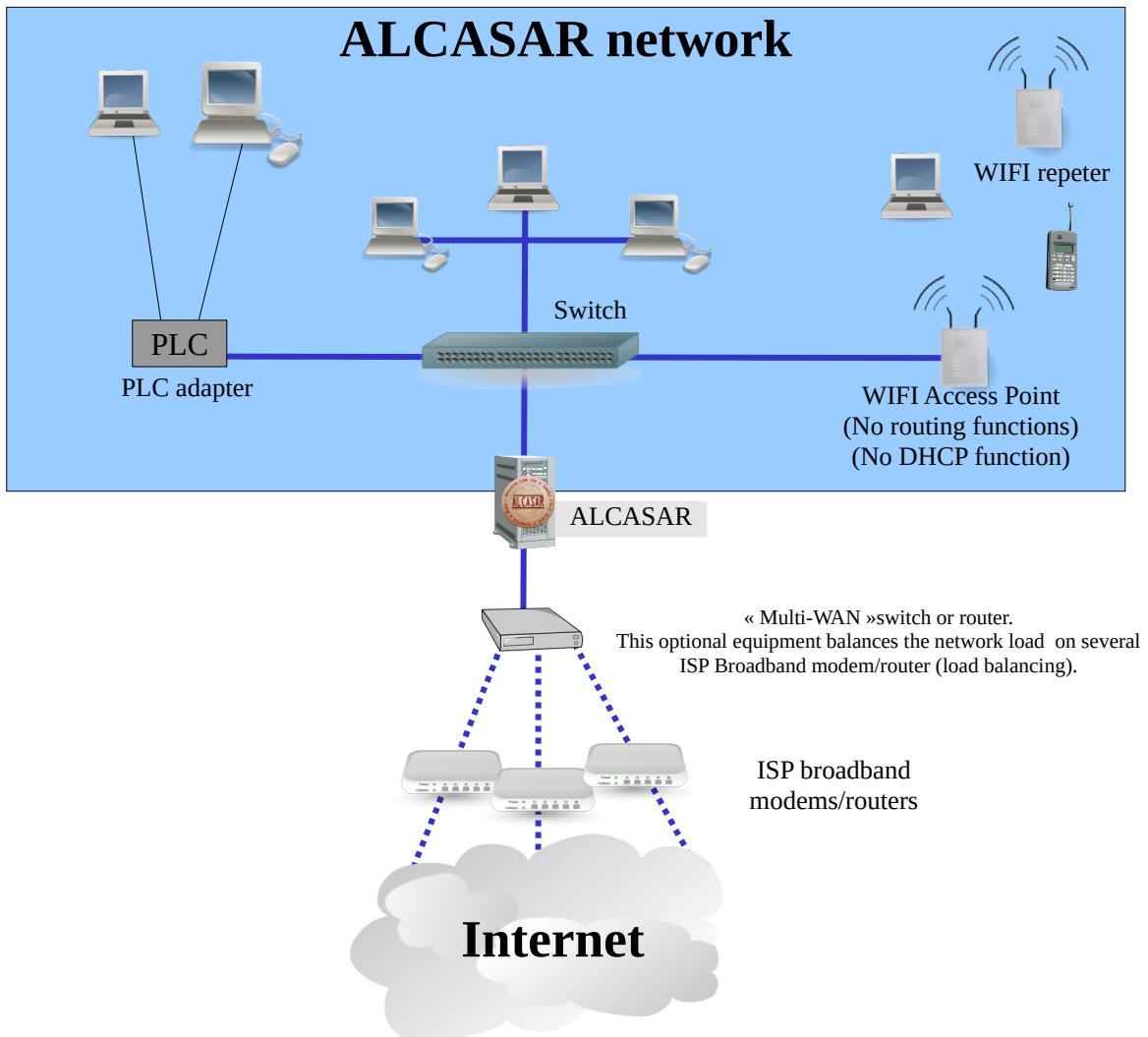
This ACC is available in two languages (English and French) via an encrypted flow (HTTPS). An authentication is required with a login name in one of the three following profiles (cf. §7.1) :

- profile « admin » can use all the administration functions ;
- profile « manager » is limited to user management functions ;
- profile « backup » is limited to a backup (of the log files) function.



Warning : The intrusion detection system of ALCASAR will forbid new connection attempts during 3' if it detects three connection failures on ACC.

2. Network settings



On the ALCASAR network, devices can be connected with multiple technologies (wired Ethernet, WiFi, PCL, etc.). For all these devices, ALCASAR is the DNS, the time server and the default gateway.

⚠ CAUTION : On the consultation network, no other gateway should be present (verify the PLC and WIFI Access Point settings).

The IP address setting of the network is defined during the installation process of the portal.

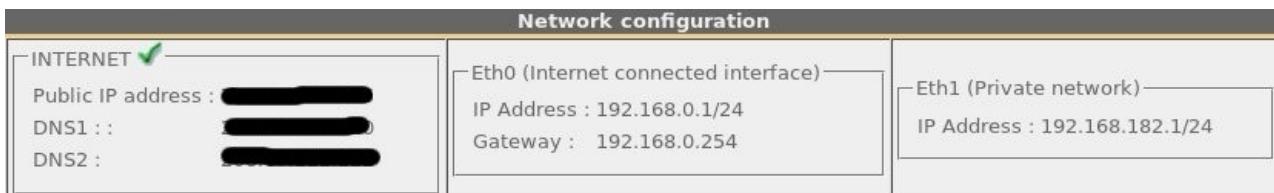
For example, with a class C network (default configuration)

- Network IP Address : 192.168.182.0/24 (sub-net mask : 255.255.255.0) ;
- Max number of devices : 253 ;
- ALCASAR eth1 IP address : 192.168.182.1/24 ;
- Parameters of connected devices :
 - available IP addresses : between 192.168.182.3 and 192.168.182.254 (static or dynamic) ;
 - DNS server address : 192.168.182.1 (ALCASAR IP address) ;
 - DNS suffix : localdomain (this DNS suffix must be set in the static address setting of the client device) ;
 - Default gateway IP address : 192.168.182.1 (ALCASAR IP address) ;
 - network mask : 255.255.255.0

2.1. ALCASAR settings

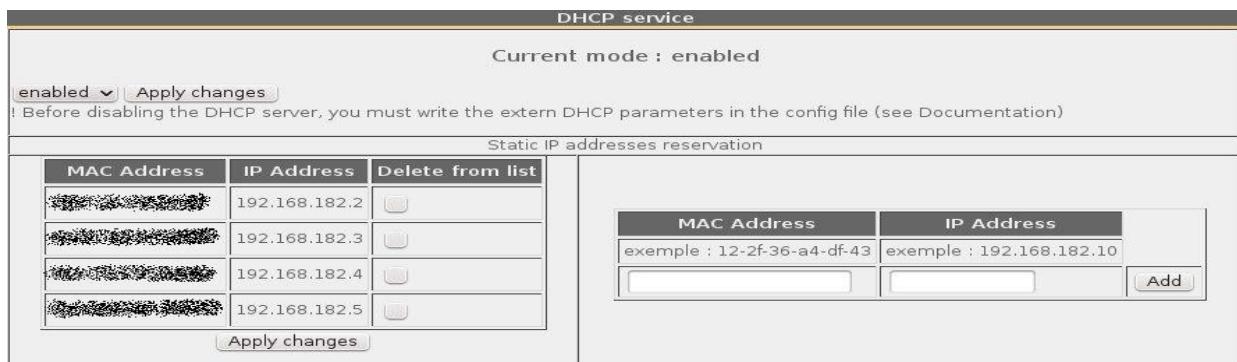
You can change ALCASAR network settings in the « system » + « network » menu.

a) IP configuration



Currently, these parameters cannot be modified directly with the ACC. Nevertheless, you can change them in a text console by editing the file « [/usr/local/etc/alcasar.conf](#) ». When modifications are made, apply them with the command line « [alcasar-conf.sh --apply](#) ».

b) DHCP server



The DHCP (Dynamic Host Control Protocol) server provides IP settings to client devices connected on the network.

You can reserve IP addresses for devices that need static IP addresses (servers, printers, WiFi AccessPoint). Be sure that no other DHCP server is connected on your network. Or be sure to well knowing how manage multi-DHCP service (cf. §8.5a to manage the cohabitation with a A.D. © server).

2.2. Client devices settings

a) Client device setting

A “User sheet” is available at the end of this manual.

Users only need a system in **DHCP mode** and a browser supporting « **JavaScript** » and « **pop-up** » windows. To be intercepted by ALCASAR, browsers must try to access a **HTTP** (and only HTTP) website. The **proxy** server settings must be **disabled**.

b) Adding bookmark

On browsers, it can be useful to add ALCASAR homepage (<http://alcasar>) to bookmarks in order to allow users to change their password, to log out or to install the ALCASAR security certificate.

c) Installing the ALCASAR security certificate

Some communications between client devices and ALCASAR are encrypted with SSL (Secure Socket Layer) protocol. This protocol needs two certificates created during the installation: the ALCASAR certificate and the local Certification Authority (C.A.) certificate. By default, browsers don't know this certification authority. So, one of the following page is displayed when they connect to the portal for the first time.

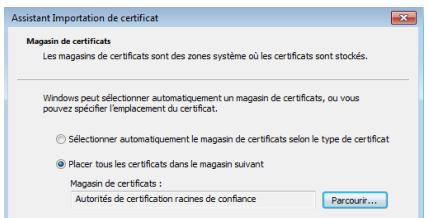
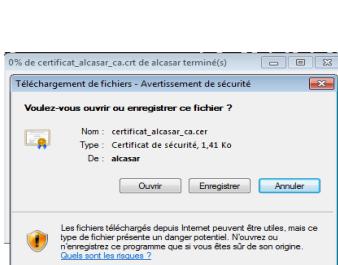


« Mozilla-Firefox »

« Microsoft-I.E. »

« Google-chrome »

Although it is possible to continue to browse, it is recommended to install the security certificate of this C.A. in browsers so that they don't display these pages anymore¹. To do that, click the zone « Install ALCASAR AC certificate » of the ALCASAR homepage. For each browser, follow the following steps :



1 – click « open »

2 – click « authorize »

3 – click « install the certificate »

4 – Choose the store « Trusted root certification authorities »

« Internet Explorer 8 » and « Safari »

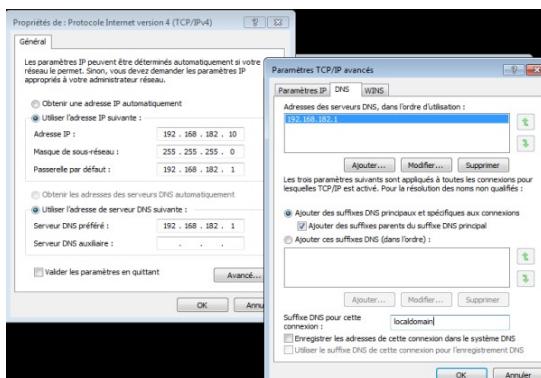
« Google chrome »: Google Chrome saves the certificate locally ([certificat_alcasar_ca.crt](#)). Select « preferences » in the configuration menu, then « advanced options », then « manage certificates » and then « import » in the tab « Authorities ».

¹ You can avoid this manipulation either in buying and including in ALCASAR an official certificate which is known by all web browsers (see §8.4), or in disabling the encryption of authenticating flow with the script « alcasar-https.sh {--on|--off} ». Disabling the encryption means that you perfectly manage your ALCASAR network (see §11).

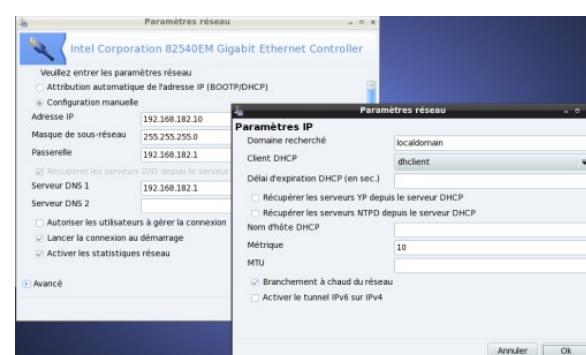
d) Network configuration in static mode (servers, printers, WIFI access points, etc.) :

For these devices, the required parameters are the following :

- default gateway : IP address of the eth1 network interface of ALCASAR ;
- DNS server : IP address of the eth1 network interface of ALCASAR ;
- **DNS suffix : localdomain**



« Windows Seven »

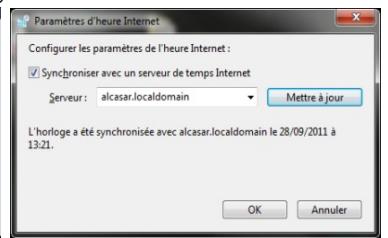


« Mandriva & Mageia Linux »

e) Time synchronization

ALCASAR includes a network time server (« NTP » protocol) allowing you to synchronize devices connected to the ALCASAR network. Thus, on Windows or on Linux, you can define ALCASAR server as the time server by right clicking on the clock of the desktop. Enter « alcasar » on Linux and « alcasar.localdomain » on Windows.

Note: All NTP flows from consultation network are redirected to ALCASAR.



3. Managing users and their devices

AUTHENTICATION

- ▶ [Activity](#)
- ▶ [Create a user](#)
- ▶ [Edit a user](#)
- ▶ [Create a group](#)
- ▶ [Edit a group](#)
- ▶ [Import / Empty](#)
- ▶ [Exceptions](#)
- ▶ [Auto registration \(SMS\)](#)

User management interface is available in the menu « AUTHENTICATION »).

You can :

- display the network activity. Disconnect a user.
- create, search, modify and remove a user or user group ;
- import user names from a text file or from a user database backup ;
- empty the user database ;
- define trusted client devices allowed to connect to the Internet without authentication (exceptions).

3.1. Network activity

A connected user device. You can log out him or click on his name to view his profile

Activité sur le réseau de consultation			
#	Adresse IP	Adresse MAC	Usager
1	192.168.182.100	00-21-97-6B-57-E5	[REDACTED]
2	192.168.182.173	00-02-72-85-75-ED	[REDACTED]
3	192.168.182.130	00-16-EA-58-9B-04	[REDACTED]
4	192.168.182.131	00-16-6F-A1-EB-60	[REDACTED]
5	192.168.182.137	00-1A-A0-2F-10-DB	@MAC autorisée
6	192.168.182.162	00-24-01-08-95-CB	
7	192.168.182.132	00-24-2B-71-24-1C	
8	192.168.182.165	00-0F-3D-67-B2-48	

Device allowed to browse the Internet without authentication on ALCASAR (trusted device - see §4.7.c)

Device connected on the ALCASAR network but with no user authenticated. You can remove this record (disassociate). It is required if you want to change the device's static IP address or when a client device has a wrong IP address.

3.2. Creating groups

Generally, in order to minimize the administration load, it's interesting to manage user group instead of each user. For that, the first thing to do is to define the list of user group to create.

When you create a user group, you can define attributes of all the users of this group. These attributes are taken into account only if they are not empty. Thus, let the attribute empty if you don't want to use it. For assistance, click on the attribute name.

Create a group

Already created group(s)	The group list is empty
Group name	
Members of group : (separate by a 'space' or a 'carriage return')	
Expiration date	= <input type="button" value="..."/>
Maximum time of connection (in seconds)	= <input type="button" value="..."/> s <input type="button" value="▼"/>
Maximum time for a session (in seconds)	= <input type="button" value="..."/> s <input type="button" value="▼"/>
Maximum time of connection per day (in seconds)	= <input type="button" value="..."/> s <input type="button" value="▼"/>
Maximum time of connection per month (in seconds)	= <input type="button" value="..."/> s <input type="button" value="▼"/>
Number of concurrent login	= <input type="button" value="..."/>
Weekly period	= <input type="button" value="..."/>
Maximum of data uploaded (in octets)	= <input type="button" value="..."/>
Maximum of data downloaded (in octets)	= <input type="button" value="..."/>
Maximum of data exchanged (in octets)	= <input type="button" value="..."/>
Maximum upload bandwidth (in kbytes/second)	= <input type="button" value="..."/>
Maximum download bandwidth (in kbytes/second)	= <input type="button" value="..."/>
Redirection URL	= <input type="button" value="..."/>
Filtering	= <input type="button" value="..."/> <div style="border: 1px solid #ccc; padding: 2px; display: inline-block;"> None Antivirus Blacklist + antivirus Whitelist + antivirus </div>

The name is case sensitive (« group1 » and « Group1 » are two different names) and can't contain any accents or special characters.

Expiry date
After this date, users of this group can't log in anymore. A week after this date, users will be automatically deleted.
Click on the zone to see a calendar.

Maximum time of connection
This time of connection is independent from the number of sessions. Thus, the user can spend this time as he wants (in one or more sessions).

Limit of time
When one of these limits is reached, the user is logged out.

Number of concurrent session per user
Examples : 1 = only one session at a time, « empty » = no limit, X = X authorized concurrent sessions, 0 = account locked.
Note : It's a good way to temporarily lock or unlock a user account

Authorized periods in a week
Example for a period from Monday at 7 am to Friday at 6 pm :
Mo-Fr0700-1800

5 quality of service parameters (QOS)
You can set limitations.
Data volume limit is set for one session. When the limit value is reached, the user is logged out.

URL redirection
Once authenticated, the user is redirected to this URL.
The URL must contain the protocol name. Example :
« http://www.site.org »

Filtering
Choose the filtering policy. See §4 for more explanations about the blacklist, whitelist and antivirus filtering system.

Cet attribut définit le nombre maximum de sessions simultanées qu'un usager peut ouvrir (non renseigné = infini)
This attribute defines the maximum number of concurrent logins for a user. It is independent from the number of ports the user is allowed to open in a multilink session.

For assistance, click on the attributes name.

3.3. Editing and removing a group

Click the name of the group to edit it

#	Group	Nombre d'usagers
1		13
2		2
3		4
4		7
5		7
6		11
7		164
8		186
9		136
10		149
11		158

Group : classroom1 ()

Remove all members of this group :
Are you sure to remove classroom1 ? Yes, remove

Groups management

MEMBERS **ATTRIBUTES** **REMOVE**

Group : classroom1

Members to remove :
The selected members will be removed from the group.
Use 'shift' or 'Ctrl' for multiple selection.

classroom1	lulu
	paulo
	sophie

Members to add :
Separate the members with a 'space' or a 'carriage return'.

Change Manage the selected user

3.4. Creating users

Login and password are case sensitive
(« James » and « james » are two different users)

If you choose a group, the user inherits its attributes*.

* When an attribute is defined both for user and for his group (example : “maximum time” for a session), user attribute takes precedence over group attribute.

* When a user is member of several groups, you can set his primary group in the user attributes window (see next §).

* When an attribute prevents a user to log in, a message is displayed in his login window (see « user sheet » at the end of this manual).

When the users are created, PDF vouchers are generated in the language of your choice.



see the previous chapter to get details on attributes

Login	<input type="text"/>
Password	<input type="password"/> generate
Group	The group list is empty
Surname and name	<input type="text"/>
Email Address	<input type="text"/>
Expiration date	<input type="text"/>
Authorized period after the first connection (in seconds)	<input type="text"/> s
Number of concurrent login	<input type="text"/> 1
Filtering	<input type="button" value="None"/>
Voucher language	<input type="button" value="Français"/>

Create Advanced menu

Create several tickets

Note: when creating multiple tickets simultaneously:
- username and password are randomly generated,
- fields "Surname and name" and "Email Address" are not used.

To see/hide all attributes

Enter the number of users to create

OK Annuler

If you create multiple users, it's interesting to fix an expiration date (see the remark below)



Remark : if an expiration date is enabled, one week after this date, the user is automatically deleted. When a user is deleted from the database, his connections logs are kept in order to be able to impute his connections.

3.5. Searching and editing users

You can search users with several criteria (login name, attributes, etc.). If you leave the criteria field blank, all users will be listed.

Search filter	
Search criteria	Login
Value (empty = all)	<input type="text"/>
<input type="button" value="Start search"/>	
Search criteria	Special attribute
Attribute	Expiration date
Value (empty = all)	<input type="button" value="Expiration date"/> Maximum time of connection(in seconds) Maximum time for a session(in seconds) Maximum time of connection per day(in seconds) Maximum time of connection per month(in seconds) Number of concurrent login Weekly period Maximum of data uploaded(in octets) Maximum of data downloaded(in octets) Maximum of data exchanged(in octets) Maximum upload bandwidth(in kbytes/second) Maximum download bandwidth(in kbytes/second) Redirection URL
<input type="button" value="Start search"/>	

The result is a list of users matching your search criteria. Each user's toolbar includes the following functions :

User attributes

Personal information

Deleting a user

Active sessions
(From here, you can disconnect the user)

General information (connections list, statistics, password test, etc.)

Check Password

Analyse

Connections list
(you can define an observation period)

3.6. Importing users

In the ACC (menu « AUTHENTICATION », « Import ») :

a) From a user database backup

When you import a user database backup, the current database will be emptied. Because this database needs to be provided in case of inquiry, a backup is automatically done (see §7 to retrieve this backup).

Import from a saved users database file (SQL format)

In order to impute the last connections, the actual users database will be automatically saved.

File (.sql) : Parcourir...

b) From a text file (.txt)

This function allows you to easily add users to the current database. This text file must be formatted like this : one user login per line followed (or not) by a password separated by a space. Without a defined password, ALCASAR creates one randomly. This file can come from a spreadsheet application :

- from the « Microsoft office suite », record the file in « Text (DOS) (*.txt) format» ;
- from the « LibreOffice office suite », record the file in « Text CSV (.csv) » format and remove separators (option « edit filter parameters »).

Once the file is imported, ALCASAR creates each new account. If the login name already exists, the password is just changed. Two files in « .txt » and « .pdf » format, including login names and passwords, are created and saved in the directory « /tmp » (during 24 hours). These files are available in the ACC.

Import from a text file ('.txt')

In this file, you must write only the user login one below the other.

Logins/passwords file : In order to ease the management of new users, you can define their group of ownership.

File (.txt) : Parcourir... Aucun fichier sélectionné

Define their group (advisable) :

eleves **enseignants**

• 20150127-114053-users-list (txt - pdf)
 • 20150127-111022-list (txt - pdf)
 • 20150127-114212-users-list (txt - pdf)
 • 20150127-112507-list (txt - pdf)
 • 20150127-113556-users-list (txt - pdf)

For each import, a file including logins and password is available during 24 hours (« txt » and « pdf » format).

3.7. Emptying the user database

This function allows you to delete all the users in one click. A backup of this database is automatically done. See §7 to retrieve the backup. See previous chapter to re-inject it.

Reset the users database

In order to impute the last connections, the actual users database will be automatically saved.

3.8. Authentication exceptions

By default, ALCASAR is configured to stop the network flow from a user not logged in.

Nevertheless, you can define some exceptions :

- to allow auto update of antivirus and auto-update of operating systems (See §11.2) ; On « Windows© » : to keep the “Internet access” icon on, even if nobody is connected.
- to access a server or a security zone (DMZ) located behind ALCASAR ;
- to allow some devices to not be intercepted;
-

a) To trusted sites or trusted domain names

In this window, you can input trusted site names or trusted domain names. In case of a domain name, all the linked sites are allowed (example : « .free.fr » allows “ftp.free.fr”, “www.free.fr”, etc.).

You can display a weblink to a trusted site on the ALCASAR homepage.

Trusted Internet domain names			
Manage Internet domain names that can be joined without authentication			
Domain names	Link displayed in intercept page	Remove from list	Domain names
free.fr		<input type="checkbox"/>	exemple1 : www.mydomain.com
www.alcasar.net	alcasar website	<input type="checkbox"/>	exemple2 : yourdomain.net
www.wikipedia.org	wikipedia	<input type="checkbox"/>	Let empty to not display link
<input type="button" value="Apply changes"/>		<input type="button" value="Add to list"/>	

b) To trusted IP addresses or trusted network IP addresses

Trusted IP addresses		
Manage systems addresses or networks IP addresses that can be joined without authentication		
Trusted IP addresses	Comments	Remove from list
192.168.182.3	my_nas	<input type="checkbox"/>
Apply changes		
Add to list		

In this window, you can manage trusted IP addresses or trusted network ip addresses (a DMZ for example). The network protocol filtering, if enabled (see § 4.2.c), has no effect on the addresses mentioned here.

c) Allowing trusted client devices

It is possible to allow some client devices to go through ALCASAR without being intercepted. In order to do that, create a user whose name is the MAC address of the device (example: 08-00-27-F3-DF-68) and the password is “password”. It should be borne in mind that in this case, traces of connection to the Internet will be charged to the device (not to the user).

To have more information on the MAC address, you can add user information in the “user info” menu (like in the following screenshot).

In order to be imediately considered, the “chilli” service must be restarted (see §9.3).

#	Usager	Actions	Membre du groupe
1	00-11-09-2D-25-4C (PC proviseur)		
2	48-5B-39-4D-0D-77 (PC profs)		
3	fabien_y		eleves
4	jerome_m		eleves
5	laurent_t		eleves

3.9. Auto-registration via SMS

a) Purpose, principle and prerequisite :



The objective of this module is to provide to the users a self registration, while respecting the legal requirements. In order to work, this module required a GSM modem (also called 3g key), and a subscription to a mobile operator.

How does it work? The user who want an ALCASAR account in order to access to the Internet send a simple SMS to number of the ALCASAR 3g key. The SMS content is the password, and the phone number of the user is the login. When the SMS is received by ALCASAR, the account is created.

During our tests the following 3g key were used :

- **Huawei E180**

- ~ 30€
- Connectivity: USB
- Power : USB
- Little issue with the Huawei firmware.
- Configuration : **at19200**



- **Wavecom Fastrack suprem 10**

- ~ 60€
- Connectivity: RS-232 (with an RS-232/USB link)
- Power: Power mains
- No issues.
- Configuration : **at115200**



- **Wavecom Q2303A Module USB**

- ~ €
- Connectivity: USB
- Power: USB
- No issues.
- Configuration : **at9600**



b) enable the service :

AUTHENTIFICATION	
Créer un usager	
Éditer un usager	
Créer un groupe	
Éditer un groupe	
Importer / Vider	
Exceptions	
Activité	
Auto enregistrement (SMS)	

You can have an acces to the configuration of this module in the autoregistration entry.

If no 3g key are plugged, the configuration page is disabled.

Status of your device
No device detected

If a valid 3g key is connected:

Status of your device		Show the service status	Connection : at115200	Configuration : at	Valider																																									
<table border="1"> <thead> <tr> <th>Service status</th> <th>Signal strength</th> <th>Device IMEI</th> <th>Number of SMS received</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> Gammu is down</td> <td>Start</td> <td>Stop</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>						Service status	Signal strength	Device IMEI	Number of SMS received			<input checked="" type="checkbox"/> Gammu is down	Start	Stop	-	-	-																													
Service status	Signal strength	Device IMEI	Number of SMS received																																											
<input checked="" type="checkbox"/> Gammu is down	Start	Stop	-	-	-																																									
<table border="1"> <thead> <tr> <th colspan="2">Configuration</th> <th colspan="4">Current configuration</th> </tr> </thead> <tbody> <tr> <td>Phone number (3g key)</td> <td><input type="text"/></td> <td>Edit</td> <td colspan="4">xxxxxxxxxx</td> </tr> <tr> <td>PIN password</td> <td><input type="text"/></td> <td>Edit</td> <td colspan="4">1234</td> </tr> <tr> <td>Time for a new session</td> <td><input type="text"/> days</td> <td>Edit</td> <td colspan="4">1</td> </tr> <tr> <td>Max number of try before a permanent ban</td> <td><input type="text"/></td> <td>Edit</td> <td colspan="4">2</td> </tr> <tr> <td>Duration of a ban (for example, after X try)</td> <td><input type="text"/> days</td> <td>Edit</td> <td colspan="4">1</td> </tr> </tbody> </table>						Configuration		Current configuration				Phone number (3g key)	<input type="text"/>	Edit	xxxxxxxxxx				PIN password	<input type="text"/>	Edit	1234				Time for a new session	<input type="text"/> days	Edit	1				Max number of try before a permanent ban	<input type="text"/>	Edit	2				Duration of a ban (for example, after X try)	<input type="text"/> days	Edit	1			
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<p>Show 10 entries</p> <table border="1"> <thead> <tr> <th>Phone number</th> <th>Reason</th> <th>Expiration date</th> <th>Action</th> </tr> </thead> <tbody> <tr><td colspan="4">No matching records found</td></tr> </tbody> </table>						Phone number	Reason	Expiration date	Action	No matching records found																																				
Phone number	Reason	Expiration date	Action																																											
No matching records found																																														
<p>No matching records found</p> <p style="text-align: right;">previous next</p>																																														

(1) This number must be written as the international pattern: +xxYYYYYYYYYY. « xx » for country indicative. « YYYYYYYYYY » for the phone number (9 digits). This number will be write on the user information page (see next §).

(2) Be careful, If the PIN code is wrong, the SIM card will be locked. In this case, follow the instructions in the documentation “alcasar-2.9-technique.odt - §8.2 Auto-inscription par SMS” to unlock it.

(3) This field give a value (in days) for a valid account.

(4) A policy against the spam has been implanted :

- Number of tries allowed by phone when receiving an invalid password (just one word in the content of the SMS).
- If the number of try is exceed, the phone number of this user will be banned for a time (in days). Each phone number ban will be ignored by ALCASAR.

(5) Each 3g key has a different baud rate transfer. See previous chapter to find the rate for the 3g keys we have tested. A bigger list of configuration can be find on : <http://wammu.eu/phones/>

If all is set correctly, you can start the module with the “starts” button.

Service status	Signal strength	Device IMEI	Number of SMS received
<input checked="" type="checkbox"/> Gammu is running	Start	Stop	 ... 60 %

This table show the status of the service, the signal strength, the IMEI number and the number of SMS received (reset when the service is stopped).

Access Control

c) User interface

Once the service is started, the interception page provides an additional link « Auto registration ».

CVO
Page d'auto enregistrement

Bienvenue sur la page d'auto enregistrement.
Le portail auquel vous essayez de vous connectez offre la possibilité de s'inscrire automatiquement; en envoyant votre mot de passe par SMS au numéro (prix d'un SMS, non surtaxé):

+33122334455

Votre SMS ne doit contenir qu'un seul mot.
A la fin de votre inscription, vous pourrez retrouver votre numéro de téléphone dans le tableau ci-dessous, avec l'état et la date d'expiration de validité ou bloquage de ce dernier.

Le champ de recherche ci-dessous vous permet de rechercher votre numéro suivant les 5 derniers chiffres.

Numéro de téléphone	Etat de votre numéro	Expiration du bloquage
336****10961	Numéro bloqué: nombre d'essai dépassé.	13 June 2014
336****18961	Numéro bloqué: nombre d'essai dépassé.	13 June 2014
336****28961	Compte actif	13 June 2014
336****30551	Compte actif	13 June 2014
336****38941	Numéro bloqué: nombre d'essai dépassé.	13 June 2014
336****38961	Numéro bloqué: nombre d'essai dépassé.	13 June 2014
336****38961	Numéro bloqué: nombre d'essai dépassé.	13 June 2014
336****38961	Compte actif	13 June 2014
336****38961	Numéro bloqué: nombre d'essai dépassé.	13 June 2014
336****38961	Compte actif	13 June 2014

Affiche la page 1 sur 3 Précédent | 1 | 2 | 3 | Suivant



This link gives some information about the SMS account already created. Moreover, each user can have an information on the status of his phone number.

d) Accounts management [administration]

Each account created by the auto-registration module has just one attribute : the expiration date. These accounts belong to the users group "sms". So, if you want to set an attribute, you can edit the "sms" user group (see §3.2). These accounts are not seen in the standard user management section of the ACC.

This table give the state of phone number which have sent one or more SMS. If you click on delete, the account (if it is already available) will be delete, and the user can create an account again.

Montrer 10 résultats par page	Recherche :		
Numéro	Raison	Date d'expiration	Action
336	Un compte a été créé	13 June 2014	[Effacer]
336	Un compte a été créé	13 June 2014	[Effacer]
336	Le nombre d'essais maximum a été dépassé	13 June 2014	[Effacer]

Affiche la page 1 sur 1 précédent | 1 | suivant

e) Country filtering

By default, the SMS auto registration module allows only french numbers (country code: +33). A web interface is available to change the level of filtering:

- only french numbers
- only European numbers
- Allow every numbers
- Personal configuration: the administrator can authorize a personal list of country.

Country filtering		
Current filtering : Authorize the french numbers		
Search : <input type="text"/>		
<input type="checkbox"/> Authorize the french numbers	<input type="checkbox"/> Authorize european numbers	<input type="checkbox"/> Authorize all countries
Country filtering advanced		
Show 10 entries		
Pays	code	Etat
Afghanistan	+93	
Afrique du Sud	+27	
Albanie	+355	
Algérie	+213	
Allemagne	+49	
Andorre	+376	
Angleterre	+44	
Angola	+244	
Anguilla	+1264	
Antigua et Barbuda	+1268	

Showing 1 to 1 of 1 entries : previous | 1 | 2 | 3 | 4 | 5 | ... | 23 | next

f) Error messages [administration]

Can not listen the ttyUSB0 port.	You 3g key is maybe used by an other program
Timeout. Can not connect to modem.	The 3g key has been disconnected
An issue with your Sim card was detected. Is it in the key?	The Sim card is not in the 3g key
Warning, during the last startup, the PIN code was wrong. The Sim card must be blocked. Please read the documentation.	The PIN password is invalid. The SIM card is maybe blocked. Please refer to the technical documentation of ALCASAR (§8.2 - Auto-inscription via SMS).

4. Filtering

► **FILTERING** ALCASAR has several optional filters:

- **Blacklist** • a blacklist and a whitelist of domain names, URLs and IP addresses;
- **Whitelist** • an anti-malwares on the WEB flow;
- **Protocols** • a filter for network protocols.

The first filter was developed at the request of organization likely to welcome young people (schools, secondary schools, recreation centers, etc.). This filter can be compared to the parental/school control system. You can enable or disable it for each user (or group of users) by modifying users or groups attributes (see §3).

The anti-malware can detect a lot of type of files (virus, worm, phishing, etc.). It can be combined with previous filter. It is enabled by user. It is updated every 4 hours.

Domain names, URLs and IP addresses are referenced in two lists.

- Either you operate a whitelist. The filtered users using that list can access only the sites and IP addresses of the whitelist
- Either you operate a blacklist. The filtered users using that list can access all the sites and IP addresses except those of the blacklist.

On ALCASAR, this filter runs on all network protocols. For example, if the domain name “warez.com” is blocked, all protocols for this domain will be blocked (HTTP, HTTPS, FTP, etc.).

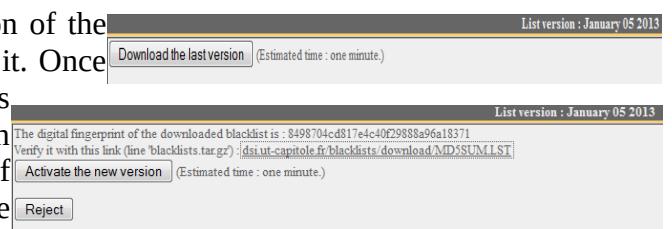
ALCASAR uses **the excellent** list (black + white) drawn up by the University of Toulouse (France). This list was chosen because it is distributed under a free license (creative commons) and its content refers to France. In that list, domain names (eg www.domaine.org), URLs (eg www.domaine.org/rubrique1/page2.html) and IP addresses (eg 67.251.111.10) are listed by categories (games, astrology, violence, sects, etc.). The ACC allows you :

- to update that list and to define the categories of sites to block or to allow;
- to rehabilitate a blocked site (exemple : a site that was banned, was closed and purchased by new people);
- to add sites, URLs or IP addresses that are not in the list (CERT alerts, local directive, etc.).

4.1. Blacklist and whitelist

a) Updating the list

The update of the blacklist will download the latest version of the list of the University of Toulouse (France) and will install it. Once the file is downloaded, ALCASAR calculates and displays its fingerprint. Then, you can compare this fingerprint with the one available on the website of the university of Toulouse. If the two are identical, you can confirm the update. Otherwise, discard it.



b) Editing the blacklist

You can choose categories to filter and restore or add sites to the « blacklist ».

Domain names : 1248186, Url : 54296, Ip : 214557 Select the categories to filter											
ariel	astrology	audio-video	blog	celebrite	chat	cooking	filehosting	financial	forums	games	lingerie
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
games	lingerie	manga	mobile-phone	publicite	radio	reaffected	shopping	social_networks	sports	webmail	adult
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
webmail	adult	agressif	dangerous_material	dating	drague	gambling	hacking	malware	marketingware	mixed_adult	phishing
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
mixed_adult	phishing	redactor	remote_control	sect	strict_redirector	strong_redirector	tricheur	warez			
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

redirector
Some redirector sites, which are used to circumvent filtering.
Number of filtered domain names : 84482
Number of filtered URL : 291
Number of filtered IP : 250
Example(s) :
109.140.111.10/proxy 133.79.103.100.net/proxy/ 207.156.166.165/anonymiser 208.113.116.113/~regimfb/ 24.236.109.109/~regimfb/ 64.27.4.141/~pageName=www/ 66.197.221.187/~unlockwe/ 66.90.103.130/~bypassw/ 74.86.47.189/~hidemypr/ 94.23.46.192/filesonic-proxy.php acewebmedia.com/myspaceproxy adguru.org/proxy/ allcoolflat.com/geekylegoog america22.net23.net/index.html/ andrewchin.com/proxy/

By clicking on the category name, you display its definition and the number of domain names, URLs and IP addresses it contains. By clicking on one of these number, you display the first 10 sites.

You can rehabilitate domain names or IP addresses.

You can add domain names or IP addresses directly in the ACC or by importing text file (one domain or one address per line).

Info: if you want to test site filtering or site restoring, remember to clear the cache memory of the browsers.

c) Special blacklist filtering

The blacklist has two special filters available for HTTP protocol. The first one blocks URLs containing an IP address instead of a domain name.

The second one exclude results from search engines that may not be suitable for minors ("Safe search" function). This second filter is compatible with "Google", "Yahoo", "bing" and "metacrawler". This second filter works only on HTTP requests.

It works with "YouTube" only if you get a Youtube ID. For that, visit : http://www.youtube.com/education_signup. Once your YouTube account is created, copy the ID in the ACC and save the changes.

Specific filtering
<input type="checkbox"/> Filtering URLs that contain an IP address instead of a domain name (ie: http://25.56.58.59/index.htm)
<input type="checkbox"/> Enabling school/parental control for the search engines google, yahoo, bing, metacrawler and Youtube.
For Youtube, enter your ID here : <input type="text"/>
(link to create a Youtube Id)
<input type="button" value="Save changes"/>

Option A : ajouter une nouvelle règle d'en-tête HTTP

Modifiez votre filtre de matériel ou vos paramètres de serveur proxy pour que tout le trafic sortant vers youtube.com contienne l'en-tête HTTP personnalisé suivant. L'ID à utiliser dans la configuration de l'en-tête HTTP, écrit ci-dessous, est propre au réseau de votre établissement scolaire. Si votre établissement est bloqué au niveau du quartier, cet en-tête HTTP sera propre au réseau du quartier.

Once your account is created, get your Youtube ID (character string just after the ':' character).

d) Whitelist



WhiteList						
Domain names : 9087, Url : 0, Ip : 0 Select the categories to allow						
<input checked="" type="checkbox"/> bank	<input checked="" type="checkbox"/> child	<input checked="" type="checkbox"/> cleaning	<input checked="" type="checkbox"/> jobsearch	<input checked="" type="checkbox"/> liste_bu	<input checked="" type="checkbox"/> press	<input checked="" type="checkbox"/> sexual_education
Domain names or IP to add to whitelist						
Allowed domain names				Allowed IP		
Enter one domain name per row (example : .domain.org)				Enter one IP per row (example : 123.123.123.123) or a network address (example : 123.123.0.0/16)		
<input type="button" value="Save changes"/>						

As for the blacklist, you can select categories and add your own domain names and IP addresses.

Note : "liste_bu" is a category used by french students (bu=bibliothèque universitaire=university library). This category contains a lot of useful websites validated by teachers and learning teams.

4.2. Protocol filtering

When this filter is not enabled, a logged in user can use any protocol (Internet access is limitless). All the actions of logged in users are traced and recorded regardless of the protocol used. When the filter module is enabled, only the HTTP protocol is enabled by default. All other protocols are blocked. It is possible from this restrictive mode, to enable, one by one, the network protocols you want to allow. A list of standard protocols is presented by default. You can enrich it.

Network protocols filter																																															
Actually, the network protocols filter is enable																																															
Except for the WEB (port 80), all protocols are blocked. Choose in the list below, the protocols you want authorize																																															
<input type="button" value="Switch the Filter off"/> <table border="1"> <thead> <tr> <th>Port number</th> <th>protocol name</th> <th>Authorized</th> <th>Remove from list</th> </tr> </thead> <tbody> <tr><td>-</td><td>icmp</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>22</td><td>ssh</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>25</td><td>smtp</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>110</td><td>pop</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>143</td><td>imap2</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>220</td><td>imap3</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>443</td><td>https</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>631</td><td>ipp</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>993</td><td>imaps</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>995</td><td>pop3s</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </tbody> </table> <input type="button" value="Save changes"/>				Port number	protocol name	Authorized	Remove from list	-	icmp	<input type="checkbox"/>	<input type="checkbox"/>	22	ssh	<input type="checkbox"/>	<input type="checkbox"/>	25	smtp	<input type="checkbox"/>	<input type="checkbox"/>	110	pop	<input type="checkbox"/>	<input type="checkbox"/>	143	imap2	<input type="checkbox"/>	<input type="checkbox"/>	220	imap3	<input type="checkbox"/>	<input type="checkbox"/>	443	https	<input type="checkbox"/>	<input type="checkbox"/>	631	ipp	<input type="checkbox"/>	<input type="checkbox"/>	993	imaps	<input type="checkbox"/>	<input type="checkbox"/>	995	pop3s	<input type="checkbox"/>	<input type="checkbox"/>
Port number	protocol name	Authorized	Remove from list																																												
-	icmp	<input type="checkbox"/>	<input type="checkbox"/>																																												
22	ssh	<input type="checkbox"/>	<input type="checkbox"/>																																												
25	smtp	<input type="checkbox"/>	<input type="checkbox"/>																																												
110	pop	<input type="checkbox"/>	<input type="checkbox"/>																																												
143	imap2	<input type="checkbox"/>	<input type="checkbox"/>																																												
220	imap3	<input type="checkbox"/>	<input type="checkbox"/>																																												
443	https	<input type="checkbox"/>	<input type="checkbox"/>																																												
631	ipp	<input type="checkbox"/>	<input type="checkbox"/>																																												
993	imaps	<input type="checkbox"/>	<input type="checkbox"/>																																												
995	pop3s	<input type="checkbox"/>	<input type="checkbox"/>																																												

secure web surfing.

Note: When enabled, this filter is active for all users. In future, ALCASAR will be able to associate it (or not) to each user (as for blacklist/whitelist/anti-malware).

- ICMP is used for example by the «ping» command.
- SSH (Secure SHell) : to allow secure remote connections.
- SMTP (Simple Mail Transport Protocol) : to allow emails to be sent from a thick client (outlook, thunderbird, etc.).
- POP (Post Office Protocol) : to allow thick clients to download emails.
- HTTPS (HTTP secure) : to allow

5. Access to Statistics

- ▶ [STATISTICS](#)
- ▶ [user/day](#)
- ▶ [connections](#)
- ▶ [daily use](#)
- ▶ [global trafic](#)
- ▶ [detailed trafic](#)
- ▶ [security](#)

Statistics are available on the ACC (menu "statistics"), after logging in.

This menu provides access to the following information:

- number of connections per user per day (updated every night at midnight);
- connection status of users (updated in real time);
- daily load of the portal (updated every night at midnight);
- global & detailed network traffic (updated every 5 minutes);
- security reports (updated in real time).

5.1. Number of connections per user per day

This page displays, per day per user, number, connection time and volumes of data exchanged.

Please note: the volume of data exchanged is what ALCASAR sent to the user (upload) and what it received from the user (download).

User name	Number of connections	Cumulative time	Volume of data exchanged
67	3	34 minutes, 58 seconds	1.51 MBs 52.37 MBs
68	3	17 minutes, 38 seconds	0.78 MBs 3.15 MBs
69	3	32 minutes, 4 seconds	1.84 MBs 12.61 MBs
70	4	3 hours, 50 minutes, 26 seconds	3.25 MBs 17.91 MBs
71	4	57 minutes, 16 seconds	4.04 MBs 23.44 MBs
72	4	1 hours, 20 minutes, 26 seconds	6.80 MBs 26.79 MBs
73	4	50 minutes, 32 seconds	4.03 MBs 29.53 MBs
74	4	32 minutes, 49 seconds	1.79 MBs 11.75 MBs
75	5	21 minutes, 22 seconds	1.97 MBs 71.12 MBs
76	5	1 hours, 12 minutes, 26 seconds	0.88 MBs 4.71 MBs
77	5	1 hours, 3 minutes, 25 seconds	1.41 MBs 59.74 MBs
78	6	25 minutes, 10 seconds	1.86 MBs 61.05 MBs
79	6	1 hours, 11 minutes, 4 seconds	6.33 MBs 39.43 MBs
80	7	33 minutes, 45 seconds	1.40 MBs 9.79 MBs
81	8	1 hours, 2 seconds	0.83 MBs 32.22 MBs
82	10	3 hours	17.60 MBs 39.65 MBs
83	14	3 hours, 51 minutes, 40 seconds	2.63 MBs 15.65 MBs

start time: 2007-05-30 stop time: 2007-06-06 pagesize: 10 sort by: connections number order: ascending show: User On Access Server: all

5.2. Connection status of users

This page lists log-in and log-out events from the portal. An input box allows you to specify your search and display criteria.

With no search criteria, the chronological list of connections is displayed (since the installation of the portal). Please note: the volume of data exchanged is what ALCASAR sent to the user (upload) or what it received from the user (download).

Select your display criteria here. Criteria have been pre-defined. They meet most needs (user name, IP address, log-in, log-out, volume of exchanged data). Use <Ctrl> and <Shift> to change the selection.

Select your search criteria here. By default, no criteria is selected. The list of connections made since the installation of the portal will be displayed in chronological order.

Two examples of search are detailed below.

- Example of search No1 : Display, in chronological order, of the connections established between June 1 and June 15, 2009 with the default display criteria:

- Example of search No2 : Display of the 5 shortest connections during the month of July 2009 and with the IP address "192.168.182.129". The display criteria include the cause of disconnection but not the volume of data exchanged:

Client IP Address	Login Time	Logout Time	Session Time	Terminate Cause	User Name
192.168.182.147	2009-07-01 14:07:28	2009-07-01 14:08:30	1 minutes, 2 seconds	User-Request	
192.168.182.147	2009-07-21 10:57:19	2009-07-21 10:58:26	1 minutes, 7 seconds	Admin-Reset	
192.168.182.147	2009-07-01 16:21:43	2009-07-01 16:23:00	1 minutes, 17 seconds	User-Request	
192.168.182.147	2009-07-07 09:50:35	2009-07-07 09:54:02	3 minutes, 27 seconds	User-Request	
192.168.182.147	2009-07-01 17:50:50	2009-07-01 17:54:30	3 minutes, 40 seconds	User-Request	

Afficher les attributs suivants :	--Attribute--
Stop Connect Info	>= 2009-07-01 del
Terminate Cause	<= 2009-07-31 del
Unique Id	= 192.168.182.147 del
Upload	
User Name	
Classe par :	Session Time
Nbr. Max. de résultats retournés :	5
<input type="button" value="Envoyer"/>	

5.3. Daily use

This page allows you to know the daily load of the portal.

date	sessions	temps d'utilisation total	uploads
2009-11-23	266 72%	07:02:12:03 85%	3.72 GBs 32%
2009-11-24	266 72%	05:06:42:09 63%	3.66 GBs 31%
2009-11-25	314 85%	07:00:29:46 84%	5.96 GBs 52%
2009-11-26	305 83%	07:18:28:08 93%	5.73 GBs 50%
2009-11-27	366 100%	08:07:32:27 100%	10.59 GBs 92%
2009-11-28	235 64%	05:02:06:34 61%	11.45 GBs 100%
2009-11-29	253 69%	05:06:26:55 63%	9.85 GBs 86%
2009-11-30	280 76%	07:09:22:28 88%	7.29 GBs 63%

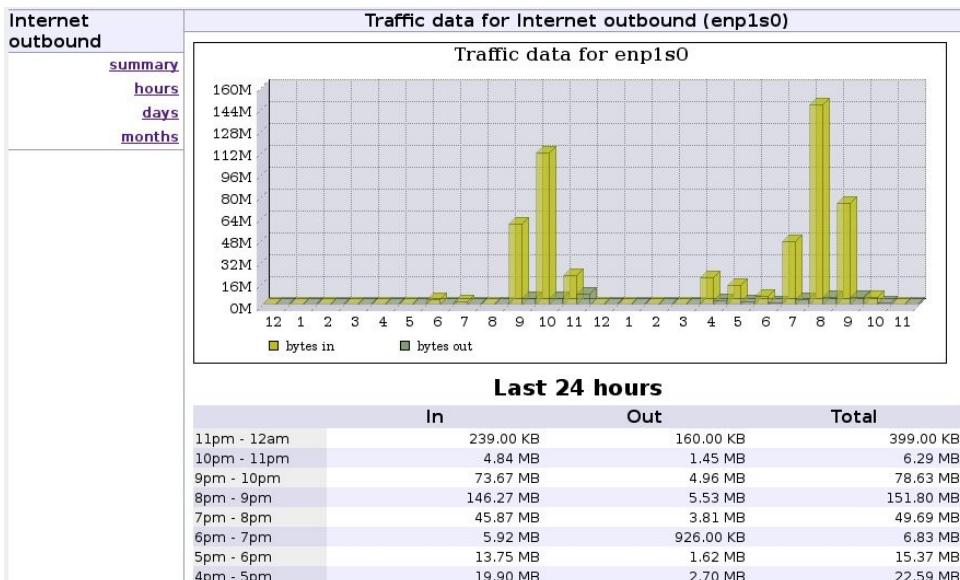
	sessions	temps d'utilisation total	uploads
maximum	366	08:07:32:27	11.45 GBs
moyenne	286	06:15:40:04	7.28 GBs
récapitulatif	2285	53:05:20:30	58.25 GBs

Here, set the period. You can specify a particular user (leave this field blank to accommodate all users).

5.4. Global and detailed traffic



Global traffic



This graph allows to show network statistics by hour, day, month.

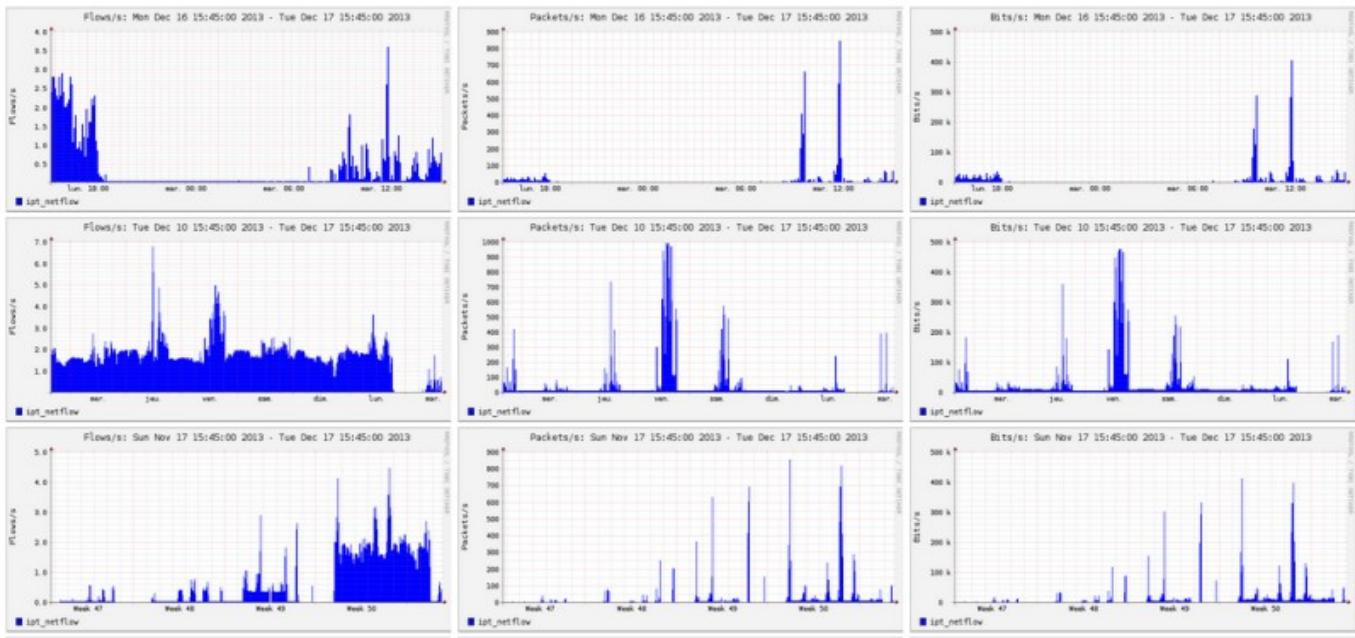
Detailed traffic



This page shows the statistics for outbound network traffic (by day, by week and by month). The data are updated every 5'.

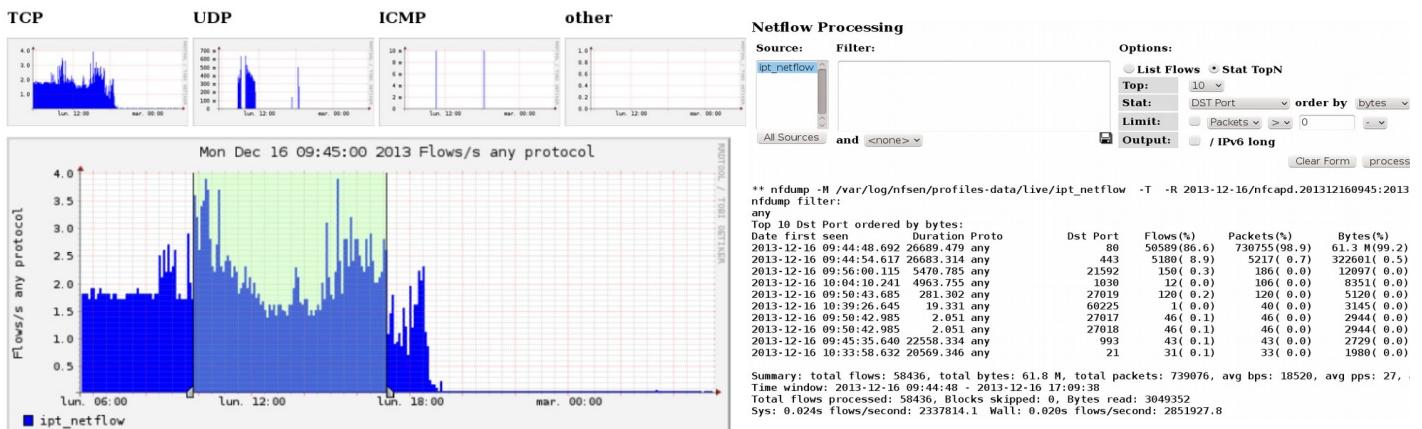
[Home](#) [Graphs](#) [Details](#) [Alerts](#) [Stats](#) [Plugins](#) live [Bookmark URL](#) Profile: live ▾

Overview Profile: live, Group: (nogroup)

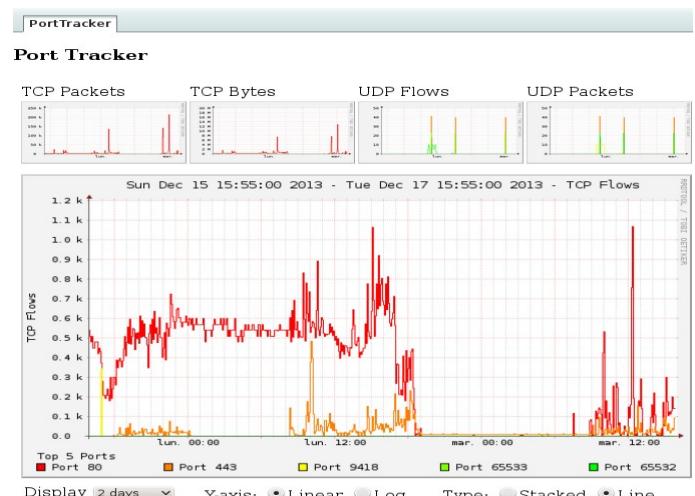


The “details” menu allows you to zoom on a particular time slot. For the HTTP flows, network IP addresses are hidden and replaced with the IP address of ALCASAR.

Profile: live



The “plugins” menu shows the network traffic based on the traffic protocol (port tracker). You can see the protocols currently in use (“now”) or all protocols used during the last “24 hours”.



SURFmap is a plugin which gives the possibility to have a visual of all the flows (not only HTTP).

Different filters are available in the *Menu* : number of flow, begin and end date, show just the flows of one @ip (“src host 123.123.123.123”)

Do not enter a huge value of flow. More this value is high, more the time of process is high.

The “Auto-refresh” checkbox refresh this page each 5 minutes.



5.5. Security Report

This page displays three safety information identified by ALCASAR:

- The list of users disconnected due to a MAC address spoofing of their device;
- The list of malwares intercepted by the integrated antivirus;
- The list of IP addresses banned during 5' by the intrusion detection system. The reasons can be : 3 successive SSH connection failures – 5 successive connection failures on the ACC – 5 successive login failures for a user – 5 successive attempts to change password in less than one minute.

Adresse(s) MAC usurpée(s) (Watchdog)
alcasar-watchdog : 172.16.0.10 is usurped (54-04-A6-1E-F7-DB). Alcasar disconnect the user (00-24-81-12-52-01). alcasar-watchdog : 172.16.0.10 is usurped (54-04-A6-1E-F7-DB). Alcasar disconnect the user (00-24-81-12-52-01). alcasar-watchdog : 172.16.0.10 is usurped (54-04-A6-1E-F7-DB). Alcasar disconnect the user (00-24-81-12-52-01). alcasar-watchdog : 172.16.0.10 is usurped (54-04-A6-1E-F7-DB). Alcasar disconnect the user (00-24-81-12-52-01). alcasar-watchdog : 172.16.0.10 is usurped (54-04-A6-1E-F7-DB). Alcasar disconnect the user (00-24-81-12-52-01). alcasar-watchdog : 172.16.0.10 is usurped (54-04-A6-1E-F7-DB). Alcasar disconnect the user (00-24-81-12-52-01). alcasar-watchdog : 172.16.0.10 is usurped (54-04-A6-1E-F7-DB). Alcasar disconnect the user (00-24-81-12-52-01). alcasar-watchdog : 172.16.0.10 is usurped (54-04-A6-1E-F7-DB). Alcasar disconnect the user (00-24-81-12-52-01). alcasar-watchdog : 172.16.0.10 is usurped (00-24-81-12-52-01). Alcasar disconnect the user (00-24-81-12-52-01).
User logged out due to MAC address spoofing
Virus bloqué(s) (HAVP)
2013 Aug 30 18:55 127.0.0.1 GET 200 http://securite-informatique.info/virus/eicar/download/eicar_niveau1.zip 276+474 VIRUS ClamAV: Eicar-Test-Signature 2013 Oct 03 10:15:29 127.0.0.1 GET 200 http://am4-r1f9-stor05.uploaded.net/dl/efb34de0-a7b-4851-81d0-caa42ca4a2e4 299+5000632 VIRUS ClamAV: Trojan.Delf-152 2013 Oct 03 11:30:49 127.0.0.1 GET 200 http://www.hackerzvoice.net/ceh/CEHv6%20Module%2008%20Trojans%20and%20Backdoors/vaLnet2013 Trojan.Netbus.KeyHook170 2013 Oct 03 11:31:39 127.0.0.1 GET 200 http://www.hackerzvoice.net/ceh/CEHv6%20Module%2008%20Trojans%20and%20Backdoors/Nuclear%20 ClamAV: Trojan.Dropper.Delf-152 2013 Oct 03 11:42:33 127.0.0.1 GET 200 http://www.drivehq.com/folder/p7275651/1833479246.aspx 471+182652 VIRUS ClamAV: PHP.Optix 2013 Oct 07 06:07:52 127.0.0.1 GET 200 http://[REDACTED] 305+5001325 VIRUS ClamAV: PHP.Optix 2013 Oct 07 16:09:53 127.0.0.1 GET 200 http://[REDACTED] 305+5001085 VIRUS ClamAV: PHP.Optix
Malware blocked - EICAR test files - Trojans - Virus
Adresse(s) IP bloquée(s) (Fail2Ban)
2013-09-25 11:52:51,640 fail2ban.actions: WARNING [ssh-iptables] Ban 172.16.0.12 --> 2013-09-25 12:02:52,370 fail2ban.actions: WARNING [ssh-iptables] Unban 172.16.0.12 iptables -D fail2ban-SSH -s 172.16.0.12 -j ULOG --ulog-prefix "Fail2Ban -- DROP" returned 100
IP address blocked by the IDS

6. Backup

6.1. Connection logs

The menu "Backup" from the ACC displays, in the first column, the list of traceability files containing the users activity logs. To save them on another media "right click" on the file name, then "save target as".

These files are automatically generated once a week in the directory « [/var/Save/larchive/](#) ». Files older than one year are deleted.

In case of legal inquiry:

In a legal inquiry, law enforcement officials may ask for connection logs of your users. Give them the file of activity of the week of the offence.

If the officials ask for the files of the current week , create this file via the menu.

Traceability log files
archive-20140103-18h59.tar.gz (1.82 Mo)
archive-20131216-05h35.tar.gz (572.83 Ko)
archive-20131209-05h35.tar.gz (604.04 Ko)
archive-20131202-05h35.tar.gz (761.29 Ko)
archive-20131125-05h35.tar.gz (931.33 Ko)
archive-20131118-05h35.tar.gz (732.16 Ko)
archive-20131111-05h35.tar.gz (1.36 Mo)
archive-20131104-05h35.tar.gz (787.9 Ko)
archive-20131028-05h35.tar.gz (848.86 Ko)
archive-20131021-05h35.tar.gz (938.89 Ko)
archive-20131014-05h35.tar.gz (643.25 Ko)
archive-20131007-05h35.tar.gz (588.05 Ko)

Create the traceability file of the current week

6.2. The users database

The menu "Backups" from the ACC displays, in the second column, backup files (in compressed "SQL" format) of the users database. They can be generated at any time by clicking in the menu "Create the current users database file".

These files can be imported in ALCASAR (cf. §3.6.a). You can use these files when reinstallation of the portal (see §8.4).

Users database	
radius-20131216-04h45.sql	(365.28 Ko)
radius-20131209-04h45.sql	(347.22 Ko)
radius-20131202-04h45.sql	(327.67 Ko)
radius-20131125-04h45.sql	(309.69 Ko)
radius-20131118-04h45.sql	(290.98 Ko)
radius-20131111-04h45.sql	(268.58 Ko)
radius-20131104-04h45.sql	(250.19 Ko)

7. Advanced features

7.1. Administration accounts management

ALCASAR server has two system accounts (or Linux accounts) that were created during the installation of the operating system:

- « root » : This is the account used for system administration ;
- « sysadmin » : This account allows you to take secure remote control of your system (see next §).

Along with these two "system" accounts, "management" accounts have been defined to control some functions through the graphical ALCASAR Control Center (ACC). These "management" accounts can belong to one of the three following profiles:

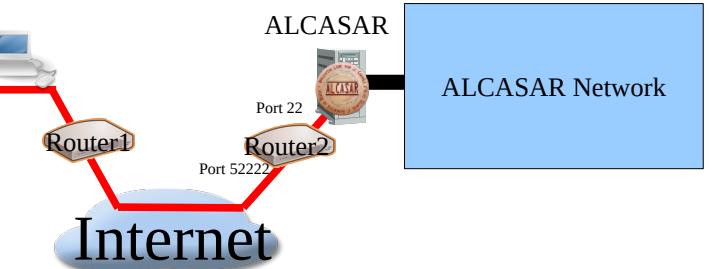
- « **admin** » : this account give access to all the functions of the ACC. A first "admin" account was created during the installation of ALCASAR (see Installation documentation);
- « **manager** »: this account only give access to users and groups management functions (see §3) ;
- « **backup** » : this account only give access to backup and archiving of log files (see previous chapter).

You can create as many management accounts as you want in each profile. To manage these management accounts, use the « **alcasar-profil.sh** » command as « root » :

- **alcasar-profil.sh --list** : to list all the accounts of each profile
- **alcasar-profil.sh --add** : to add an account to a profile
- **alcasar-profil.sh --del** : to delete an account
- **alcasar-profil.sh --pass** : to change the password of an existing account

7.2. Secure administration across the Internet

It is possible to establish a secure remote connection to an ALCASAR portal using encrypted data flow ("SSH protocol" - Secure SHell). Let's take an example of an administrator who seeks to administer, through the Internet, an ALCASAR portal or devices on the consultation network. Firstly, you need to enable the "SSH" service on ALCASAR (menu "system" and "services"). You must know the IP address of the "Broadband modem/router#2".



a) Broadband modem/router configuration

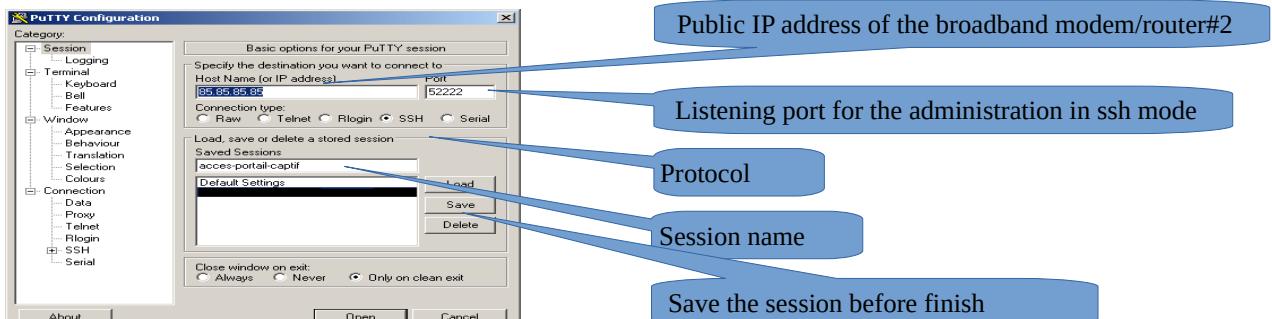
It is necessary to configure broadband modem/router#2 so that it doesn't block the "SSH" protocol. To anonymise the SSH data flow on the Internet, the default port (22) is replaced by another one (52222). If you want, you can still use the port 22.

Refer to your broadband modem/router documentation before performing this operation.

b) administration of ALCASAR in text mode

You can log in remotely to ALCASAR using the Linux "sysadmin" account created during the installation of the system. Once you are logged in, you can use the administration commands of ALCASAR (see § 11.1). Use the "su" command to become "root".

- On Linux, install "openssh-client" (you can also install "putty") and run the command « `ssh -p 52222 sysadmin@w.x.y.z` » (replace « w.x.y.z » with the public IP address of the broadband modem/router#2 and replace the "external_port" with the listening port number of the broadband modem/router#2 (52222 in our example). You can add the "-C" option to enable the compression algorythme.
- On Windows, install "Putty" or "putty-portable" or "kitty" and create a new session:



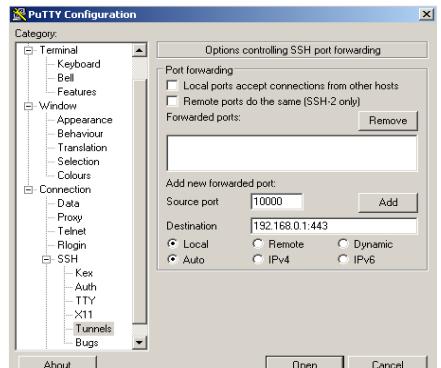
click on "Open", accept the server key and log in as "sysadmin".

c) Administration ALCASAR in GUI mode

The goal is now to redirect the data flow from the workstation's browser to ALCASAR in a SSH tunnel. To create this tunnel:

- On Linux, run the command:
« `ssh -L 10000:@IP_eth1_alcasar:443 -p 52222 sysadmin@w.x.y.z` »
- On Window, configure « putty » as describe bellow:

- Load the previous session
- On the left side of the windows, select "Connection / SSH / Tunnels"
- In "Source Port" enter the port of entry of the local tunnel (greater than 1024 (here 10000))
- In "Destination", enter the IP address of eth1 of alcasar1 followed by the port 443 (here 192.168.0.1:443)
- Click on "Add"
- Select "Session" on the left side
- Click on "Save" to save your changes
- Click on "Open" to open the tunnel
- Enter the user name and password



Start your browser and go to : "https://localhost :10000/acc/"

⚠️ "acc/" in the end of URL is important!

d) Managing devices on the ALCASAR network

Following the same logic, it is possible to manage any device connected to the consultation network (WIFI access points, switches, LDAP / AD, etc.).

- On Linux, run the command: « `ssh -L 10000:@IP_equipment:Num_Port -p 52222 sysadmin@w.x.y.z` ».
« @IP_equipment » is the IP address of the device to manage. « NUM_PORT » is the administration port of this equipment (22, 80, 443, etc.).
- On Windows, enter the IP address and the port of the device in the form "Destination" of "Putty".

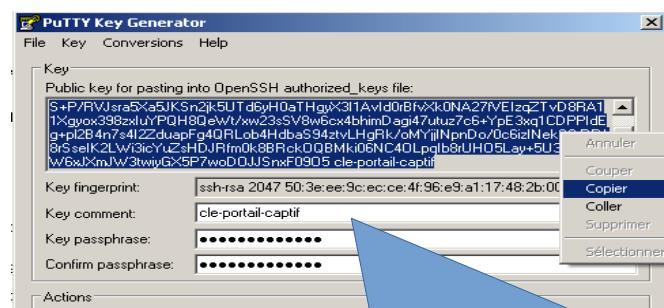
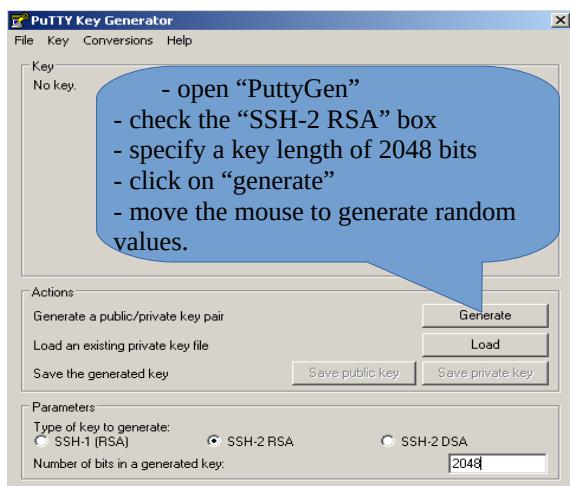
Run the command : « `ssh login@localhost:10000` » to use SSH for secure remote administration.

To connect the web-based interface, go to : « `http(s)://localhost :10000` ».

e) Use of SSH tunnel with public / private key pair (public/private key)

This paragraph, although not essential, adds an additional layer of security using private key authentication.

- generate a keys pair (public key / private key)
 - On Windows with « puttygen »



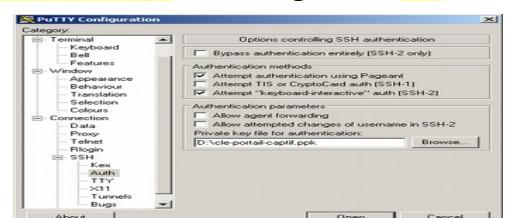
- Linux with « `ssh-keygen` »

In your personal directory, create the directory « `.ssh` » if it is not exist. From this one, generate your public/private key pair (« `ssh-keygen -t rsa -b 2048 -f id_rsa` »). The command « `cat id_rsa.pub` » displays your public key and allows you to copy it.

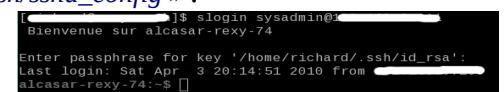
```
[richard@rexy ~]$ mkdir .ssh
[richard@rexy ~]$ cd .ssh/
[richard@rexy .ssh]$ ssh-keygen -t rsa -b 2048 -f id_rsa
Generating public/private rsa key pair.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in id_rsa.
Your public key has been saved in id_rsa.pub.
```

```
[REDACTED] .ssh]$ cat id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAQEAyL4yMM8B018Quusv1Iq/v
3kF2wvhUHzmNmH9ITFTALwHPHA91WnxlcDPe9DPR7FPqrEZf/uT84C2Gj
p7d/IX+/JyPlVxOudXaZ9wjtuS3SVWSr609NxmbZqo0ggrGpjN7Vfu53
npCrDQGfuq6PIm06AQcJQkySm0XDGFVr4r5Zbw== [REDACTED]
```

- Copy the public key on the remote portal:
 - run the following command to copy your public key directly on the remote server:
 - `ssh-copy-id -i .ssh/id_rsa.pub sysadmin@<@IP_interne_consultation>`
 - Enter your password; your public key is copied in the `sysadmin/.ssh/authorized_keys` automatically with the correct permissions.
 - Another method : log on through SSH to the remote ALASAR as "sysadmin" and execute the following commands : « `mkdir .ssh` » then « `cat > .ssh/authorized_keys` » ;
 - copy the contents of the public key from the clipboard ("Ctrl V" for Windows, middle mouse button for Linux) type « `Enter` » then « `Ctrl+D` » ; protect the directory : « `chmod 700 .ssh` » and key file « `chmod 600 .ssh/authorized_keys` » ; check the file : « `cat .ssh/authorized_keys` » and log out : « `exit` ».
- Connection test from Linux host : « `slogin sysadmin@w.x.y.z` »
- Connection test from Windows host :
 - load the previous session of putty;
 - on the left side, select "Connection / SSH / Auth";
 - click on "browse" to select the key file;
 - on the left side, select "Session";



- click on "Save" then on "Open";
- enter the user "sysadmin";
- the key is recognized, it remains only to enter the passphrase.
- If now you want to prevent the connection with passphrase, configure the sshd server:
 - become root (*su -*) and set the following options on the file « */etc/ssh/sshd_config* » :
 - *ChallengeResponseAuthentication no*
 - *PasswordAuthentication no*
 - *UsePAM no*
 - restart the sshd server(« *service sshd restart* ») and close the ssh session(« *exit* »).



7.3. How to display your logo ?

It is possible to display your logo by clicking on the logo on the upper right corner of the ACC. Your logo will be inserted in the authentication page and at the top of the page of your management interface. Your logo must be in "png" format and its size must not exceed 100KB. Refresh the page to see the change.



7.4. Server certificate

Data is encrypted between ALCASAR and devices on the ALCASAR network in the following cases:

- for users : authentication request and changing passwords;
- for administrators : access to the ACC (ALCASAR Control Center).

Encryption uses TLS protocol with a server certificate and a local certificate authority (CA) created during the installation. This server certificate has a validity of four years. You can check it on homepage of the ACC :

Système	
Nom d'hôte canonique	alcasar
Date d'expiration du certificat	May 30 23:59:59 2012 GMT
Version du noyau	2.6.33.7-desktop586-2mnb (SMP)
Distribution	Mandriva Linux 2010.2
Uptime	51 minutes
Utilisateurs	1
Charge système	0.00 0.00 0.00 100%

If the server certificate is expired, you can regenerate it with the following command : « *alcasar-CA.sh* ».

It will be necessary to remove the old certificate from browsers before installing the new one.

a) Install an official certificate

In version 2.0 and higher, it is possible to install an official intranet certificate issued from a certificate authority (CA). The installation of such a certificate avoids security warning dialog box on browsers that did not install the ALCASAR root certificate (cf. §2.2.c). Unlike "Internet" certificates which certify a domain name registered at a registrar, an "intranet" certificate can certify a private IP address or a simple server name (hostname). This is the case of ALCASAR whose "hostname" is always "alcasar". To obtain your certificate, follow the instructions as noted on the site of the certificate authority. Please note that the web server used by ALCASAR is an "APACHE" server with a SSL module. The following example presents an "intranet" certificate installation generated by the certificate authority (CA) "Digitalix".

First, you will have to execute the following command on ALCASAR as "root" :



- *openssl req -newkey rsa:2048 -new -nodes -keyout alcasar.key -out alcasar.csr*
This command creates two files : the private key (*alcasar.key*) and the certificate signing request (*alcasar.csr*).
- Copy the certificate signing request on a USB flash drive to copy its contents on the site of the certificate authority. The CA must provide you a file containing your official server certificate (*alcasar.crt*). If needed, you also have to download the intermediate authority certificate of your CA (for Digitalix, it is available here: <http://www.digitalix.fr/certs/HACert-bundle.crt>).
- As "root", copy the three files « *alcasar.key* », *alcasar.crt* » and « *HACert-bundle.crt* » in your directory (*/root*). Then, execute the following commands :
 1. *cd /etc/pki/tls* (moves in the certificate directory)
 2. *mv certs/alcasar.crt certs/alcasar.crt.old* then *mv certs/server-chain.crt certs/server-chain.crt.old* and finally *mv private/alcasar.key private/alcasar.key.old* (backup of the old certificates)
 3. *cp /root/alcasar.crt certs/* et *cp /root/alcasar.key private/* (copy of the official certificate and of its private

key)

4. if your CA owns a intermediate authority certificate: `cp /root/HACert-bundle.crt certs/server-chain.crt`
else : cp certs/alcasar.crt certs/server-chain.crt
5. Restart the Apache web server with the command « `service httpd restart` ».

If you're having problems:

- either you reverse the instructions of the second line; or you regenerate new local certificates with the command : « `alcasar-CA.sh` » ;
- restart the Apache Web server with the command : « `service httpd restart` ».

b) Copy of a certificate on several ALCASAR server

If you use several ALCASAR server, it could be interesting to copy the server certificate from a reference ALCASAR server to other ALCASAR servers. If you installed an official certificate, execute the commands from the points 1 to 5 from the previous section on the different ALCASAR servers. In the case of a certificate created during installation, copy the five following files from the reference ALCASAR to the other servers:

- for the certification authority : `/etc/pki/CA/alcasar-ca.crt` and `/etc/pki/CA/private/alcasar-ca.key`
- for the server certificate : `/etc/pki/tls/certs/alcasar.crt`, `/etc/pki/tls/certs/server-chain.crt` and `/etc/pki/tls/private/alcasar.key`

Restart the Apache Web server with the command : « `service httpd restart` ».

7.5. Use of an external directory server (LDAP or AD)

ALCASAR contains a module capable of requesting an external directory server (LDAP or AD) located either on the LAN side or on the WAN side.

When this module is enabled, ALCASAR uses the external directory to authenticate a user, but, if an error occurs, the local database will be used.

In all cases, user events logs are recorded in the local database of ALCASAR. Here is the management GUI of this module :

Authentification LDAP

Connexion LDAP réussie...

Activer l'authentification LDAP: OUI

Num du serveur LDAP: 192.168.182.10

DN de la base LDAP: ou=radius,dc=etrs,dc=localdomain

Identifiant LDAP: samAccountName

Filtre de l'utilisateur LDAP:

Utilisateur LDAP: cn=alcasar,ou=radius,dc=etrs,dc=localdomain

Mot de passe LDAP: *****

Enregistrer **Annuler**



Remark:

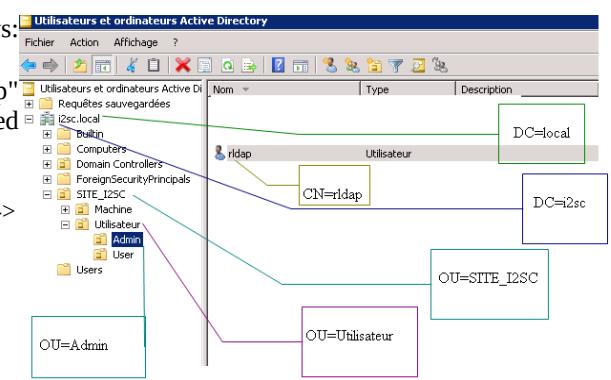
- attributes of users from the external directory can't be modified with the ACC;
- use of the secure protocol "ldaps" is not available for now. The network segment between ALCASAR and the directory server must be under control, for obvious reasons of security (cf. § 10);
- External directories do not support case sensitive unlike the local database of ALCASAR.

Example: This screenshot shows the AD directory tree organized as follows: standard users are put into the Organizational Unit (O.U.) "User".

The account used by ALCASAR to request the directory is the account "rldap" in the OU "Admin". This account is a standard account that does not need special rights.

Both O.U. "Admin" and "User" are located themselves in the OU "User".

- DN of the database : « ou=User,ou=Utilisateur,ou=site_i2sc,dc=i2sc,dc=local » --> research base of users, and this root is to be adapted to the organization of the directory tree.
- LDAP ID : « sAMAccountName » --> for AD; uid in general for other LDAP
- Filter : leave this field empty unless you want to select only specific users.
- LDAP user : « cn=rldap,ou=Admin,ou=site_i2sc,dc=i2sc,dc=local »
Please note that this field and the field "Password" can be left blank if the directory server accepts requests in anonymous mode.
- Password : password of the user « rldap »



From an external directory server (LDAP or AD) and in order to provide to users some attributes specific to ALCASAR (bandwidth, concurrent session, etc.), it is possible to create a group named "ldap" (respect lower case letters) for which you set the desired attributes.

It is also possible to assign attributes to a particular account authenticated on an external directory. To do this, create a user in the ACC with the same name / identifier as that is in the directory.

7.6. **Integration in a complex architecture (AD, external DHCP, LDAP)**

ALCASAR can be installed in an existing network with a Windows domain, a DHCP server and an external directory for the authentication process (LDAP or AD) (see previous §).

a) **Managing Windows DNS**

If your existing environment already has Active Directory enabled, then, Windows computers of your domain controller must request the DNS of this controller for specific resolutions of the domain and they must request ALCASAR for Internet access. One solution is to configure the ALCASAR DNS so it redirects to the domain controller the DNS queries concerning resolution of the domain. In this way, devices are configured with an unique DNS : ALCASAR.

On ALCASAR, the only change to make is to add the following line in the file « `/usr/local/etc/alcasar-dns-name` » :
`'server=/<your.domain>/<@IP_SRV-AD-DNS>'`

Example : “brock.net” domain is managed by the AD/DNS server “192.168.182.10”. The line to add is :
`"server=/brock.net/192.168.182.10"`

Please note that it is the domain name and not the name of the server “srv-ad.brock.net”.

Restart the service DNSMASQ to take your changes changes into account (« `service dnsmasq restart` »).

 Reminder : The DNS suffix 'localdomain' of static IP devices is mandatory.

So, computers (whether in static IP address mode or in DHCP mode) integrated into a Windows domain must have their primary DNS suffix configured with the Windows domain name and in addition with the suffix '.localdomain'.

b) **Using an External DHCP Server**

With an external DHCP server, ALCASAR must not assign network settings anymore, but this task must be carried out by the external DHCP server.

In order to do this, ALCASAR will act as a relay agent to enable assignment of IP addresses by the DHCP server.

It is necessary to stop the ALCASAR DHCP server (in the ACC: System/Network: No DHCP mode) and to modify the following variables to manage the external server (configuration file « `/usr/local/etc/alcasar.conf` ») :

- `EXT_DHCP_IP=<@IP_srv_external>`
- `RELAY_DHCP_IP=<@IP_internal_ALCASAR>`
- `RELAY_DHCP_PORT=<relay port to the external DHCP server>` : (default 67)

The external DHCP server must be configured to provide to devices:

- a range of IP @ corresponding to the range allowed by ALCASAR (default 192.168.182.3 to 254/24)
Warning: ALCASAR keep for itself the following address for its internal interface: 192.168.182.1 and 192.168.182.2.
- a gateway address corresponding to the internal IP address of ALCASAR (by default 192.168.182.1);
- the DNS suffix "localdomain";
- the IP address of the DNS server -> the internal IP address of ALCASAR (default 192.168.182.1);
- the IP address of the time server (NTP) -> the internal IP address of ALCASAR (default 192.168.182.1) or the domain controller (to avoid temporal drifts, synchronize the server clock with a trusted NTP server on the internet or with the ALCASAR server).

7.7. Encryption of log files

ALCASAR can automatically encrypt weekly log files (cd. §7.1). For this, it uses the GPG asymmetric algorithm (public key + private key).

By Providing the private key to an official of your company, you prevent administrators from being accused of log files modification.

In case of inquiry, simply provide log files and the private key for decryption.

The procedure for activating the encryption is as follows:

Printscreen	Comments	To do
<pre>Bienvenue sur alcasar-rexy Kernel 2.6.27.37-desktop-1mbn on an i686 / tty1 alcasar-rexy login: root Password: Last login: Sun Dec 20 19:12:49 on tty1 alcasar-rexy:~# rngd -r /dev/urandom alcasar-rexy:~# _</pre>	<ul style="list-style-type: none"> - Log on as « root ». - Start the entropy generator (random values). 	<code>rngd -r /dev/urandom</code>
<pre>alcasar-rexy:~# gpg --gen-key gpg (GnuPG) 1.4.9; Copyright (C) 2008 Free Software Foundation, Inc. This is free software: you are free to change and redistribute it. There is NO WARRANTY, to the extent permitted by law. Sélectionnez le type de clé désiré: (1) DSA et Elgamal (par défaut) (2) DSA (signature seule) (5) RSA (signature seule) Votre choix ? 1_</pre>	<ul style="list-style-type: none"> - Generate the key pair (public key + private key). - Choose the algorithm, the size and the lifetime of the keys (no expiration). - Choose a user name and passphrase. 	<code>gpg --gen-key</code> info: The user name must not contain spaces. This name is summarized in the term <username> later in this procedure.
<pre>alcasar-rexy:~# killall rngd</pre>	<ul style="list-style-type: none"> - Stop the entropy generator. 	<code>killall rngd</code>
<pre>alcasar-rexy:~# gpg --armor --export-secret-keys ossi-organisme > alcasar_key.prv alcasar-rexy:~# ls -al alcasar_key.priv -rw-r--r-- 1 root root 1058 2009-12-21 00:56 alcasar_key.priv</pre>	<ul style="list-style-type: none"> - Export the private key. Copy this to an external media. - Provide it (with passphrase and username) to an official of your organization (Private key escrow). 	<code>gpg --armor --export-secret-key \<username> > alcasar_key.priv</code> info : cf. installation doc for the USB management.
<pre>alcasar-rexy:~# rm -f alcasar_key.priv alcasar-rexy:~# gpg --delete-secret-key ossi-organisme gpg (GnuPG) 1.4.9; Copyright (C) 2008 Free Software Foundation, Inc. This is free software: you are free to change and redistribute it. There is NO WARRANTY, to the extent permitted by law. sec 1024D/C0BDB6EB 2009-12-20 ossi-organisme Enlever cette clé du porte-clés ? (o/N) o C'est une clé secrète ! - faut-il vraiment l'effacer ? (o/N) o</pre>	<ul style="list-style-type: none"> - Delete the previously generated keys - Delete the private key from the GPG keyring 	<code>rm -f alcasar_key.priv</code> <code>gpg --delete-secret-key <nom_utilisateur></code>
<pre>CHIFFREMENT="1" GPG_USER="ossi-organisme"</pre>	<ul style="list-style-type: none"> - Enable encryption by changing the variables "CRYPT" and "gpg_user" in the file « <code>/usr/local/bin/alcasar-archive.sh</code> ». 	<code>vi /usr/local/bin/alcasar-log-export.sh</code> info : assign the "username" to the variable « <code>gpg_user</code> »

Infos :

- ALCASAR uses the keyring "root" in the directory « `/root/gnupg` » ;
- '`gpg -list-key`' : allows to list all the key pairs contained in this kit;
- '`gpg --delete-key <user_name>`' : deletes a public key keyring;
- '`gpg --delete-secret-key <user_name>`' : deletes a private key keyring;
- You can copy the directory « `/root/gnupg` » on another server ALCASAR. Thus, you can use the same key and the same <username>;
- To decipher an encrypted archive:'`gpg -decrypt -files <filename_crypt_archive>`'.

7.8. Managing multiple Internet connections (load balancing)

ALCASAR has a script to distribute requests over a number of gateways to the Internet "`alcasar-load_balancing.sh start | stop | status`".

The parameters are not included in the ACC, it is necessary to modify the global configuration file "`alcasar.conf`" located under "`/usr/local/etc`".

Associated parameters (virtual networks card, weights, gateway ip address, etc.) must be defined in the following format: `WANx = "active [1 | 0], @ IPx / mask, GWx, Weight, MTUX"`.

The script creates the interfaces on the fly.

To make it active, the parameter "MULTIWAN" must include the "on" or "On" value; otherwise insert the "Off" value to enable the "single gateway" mode.

The connection test frequency is set by default to 30 sec.

Please note:

The parameter "FAILOVER=0" enables the MULTIWAN mode with no connection test to the gateways (no gateway failure detection).

7.9. Creating an ALCASAR dedicated PC

This chapter presents an example of a dedicated PC ALCASAR (appliance) whose constraints are : miniature (mini-itx), low noise, low cost and low energy consumption.

The configuration is the following :

- Case mini ITX (12V powerline);
- motherboard GigaByte GA-J1900N-D3V (two network cards and Intel 4-core Celeron);
- 4GB of DDR3 SODIMM memory;
- HDD 2.5' 200GB SATA.



The cost of this configuration is around 250 € (shipping included).

The consumption of this mini-PC is not more than 30W; the cost of the annual electricity consumption in France is about 30€ ($30 * 24 * 365/1000 * 0.1329$).

ALCASAR is installed via a USB drive as usual.

Once deployed, the unit requires no keyboard, no mouse and no screen.

7.10. Bypassing the portal

For reasons of maintenance or emergency, a portal by-pass procedure was created.

It disables user authentication and filtering.

Logging network activity remains active.

Network event logging remains active, but ALCASAR does not trace internet connections anymore.

- Bypass the portal by running the script « `alcasar-bypass.sh --on` ».
- To stop it, run the script « `alcasar-bypass.sh --off` ».

Please note:

Bypass mode is no longer active after restarting the server.

8. Shutdown, restart, update and reinstallation

8.1. Shutdown and restart

There are three possibilities to stop or restart properly the system:

- Via ACC
- by briefly pressing the power button of the PC;
- by connecting to the console as root and running the command "init 0";

When restarting the portal ALCASAR a procedure deletes all connections that have not been closed due to an unplanned shutdown (failure, power failure, etc.).

8.2. Operating system update

Mageia-Linux provides an excellent mechanism to apply security patches on the system and its components. ALCASAR has been developed to be fully compatible with this mechanism. So, every night at 3:30, the security updates are downloaded, checked and applied. As root, you can manually update the system with the command « `urpmi -auto --auto-update` ».

Once the update is complete, a message may warn you that a system reboot is required. This message appears only if a new kernel or a major library were updated.

8.3. ALCASAR minor updates

You can see if an update is available on ALCASAR web page, or on the cover page of the ACC, or by executing the following command « `alcasar-version.sh` ». Download and extract the archive of the latest version like a normal installation.

When starting the installation script (« `sh alcasar.sh --install` »), it detects your current version and offers you the possibility to update automatically ALCASAR to the latest version available.

Only minor updates can be done by that way. If it's impossible, the script ask you to perform a reinstallation.

During an minor update, the following settings will still remain:

- network configuration;
- the name and logo of the organization;
- logins and passwords for administrative accounts of the portal;
- users and groups database;
- main and secondary blacklists;
- trusted sites and MAC addresses list;
- network filtering configuration;
- the certificates of the Certification Authority (C.A.) and the server certificate.

8.4. ALCASAR major update or reinstallation

Via ACC, create a backup of the current users database (see §6.2). Save this backup file on a extern system.

Install the new operating system and the new version of ALCASAR (see installation documentation).

Via ACC, import the users database (see §3.6.a).

9. Troubleshooting

If you have any problem with ALCASAR, this chapter sets out several troubleshooting steps that may indicate the cause. All commands (italic text on a yellow background) must be run in a console as « root ».

9.1. Network connectivity

Retrieve the network informations in the file “`/usr/local/etc/alcasar.conf`”

- Check the network card status: run the command “`ip link`” to know the name of your two network cards. In this doc we use the following name : “INTIF” for the card connected to the consultation network. “EXTIF” is connected to the Internet. Run “`ethtool INTIF`” and “`ethtool EXTIF`” in order to check the status of both network cards (“Link detected” and “Speed” fields for example) ;
- gateway/router connection test: Run the command “`route -n`” to display the IP address of the broadband modem/router. Ping the broadband modem/router (Internet router). If an error occurs, check the cable connections and the status of the gateway/router;
- External DNS servers connection test: Ping the DNS servers. If an error occurs, try with another server;
- Internal DNS server connection test (dnsmasq) : Send a name resolution request (ex. : `nslookup www.google.fr`). If an error occurs, check state of the service "dnsmasq". You can restart the dnsmasq service with the command : « `systemctl restart dnsmasq` » ;
- Connection test to the Internet: run the command « `wget www.google.fr` ». In case of success the Google page is downloaded and saved locally (index.html). The result of this test is displayed in the menu "system / service" of the ACC;
- Device connection test : Run the command « `arping -I INTIF @ip_equipment` » to know if a device is connected to the ALCASAR network.
- To discover all the device, install the “arp-scan” package (“`urpmi arp-scan`”) and run the command « `arpScan -I INTIF --localnet` » ;
`00:1C:25:CB:BA:7B 192.168.182.1
00:11:25:B5:FC:41 192.168.182.25
00:15:77:A2:6D:E9 192.168.182.129`

Lien Internet : actif

9.2. Available disk space

If the available disk space is not enough, some modules may not run properly anymore. You can check the available disk space (especially the `/var` partition) :

Systèmes de fichiers montés					
Point	Type	Partition	Utilisation	Libre	Occupé
/	ext3	/dev/sda1	56% (1%)	383,34 Mo	547,34 Mo
/tmp	ext3	/dev/sda6	3% (1%)	1,07 Go	33,77 Mo
/home	ext3	/dev/sda7	3% (1%)	1,07 Go	33,46 Mo
/var	ext3	/dev/sda8	0% (1%)	62,74 Go	251,01 Mo
		Totaux :	1%	65,21 Go	865,59 Mo
Taille					

- in GUI-mode via the homepage of the ACC;
- in text mode, using the command « `df` »

In case of excessive reduction of this space, delete old log files after they have been archived (directory `/var/Save/*`).

9.3. ALCASAR server services

In order to complete these tasks, ALCASAR uses several server services. The status of these services is displayed in the ACC (menu « system/services »). You can stop or restart them.

Status	Nom du services	Actions
✓	radiusd	--- Arrêter Redémarrer
✓	chilli	--- Arrêter Redémarrer
✓	dnsGuardian	--- Arrêter Redémarrer
✓	mysqld	--- Arrêter Redémarrer
✓	squid	--- Arrêter Redémarrer

If one of these services can't be restarted, you can diagnostic the mistake. Connect to the console of ALCASAR (directly or with SSH). You can control the services with the command « `systemctl start/stop/restart service_name` ». At the same time, display the log file with the command « `journalctl -f` ».

9.4. Client devices connection

In the ACC (menu "System / Activity"), make sure that all your clients' network settings are correct (MAC address / IP address). If not, delete the old settings set by ALCASAR and save the new

Etat du réseau				
#	adresse IP	adresse MAC	usager	Action
1	192.168.182.130	00-0B-6C-3A-55-4D	[REDACTED]	Déconnecter []
2	192.168.182.22	00-1A-A0-2F-10-DB	[REDACTED]	Déconnecter []
3	192.168.182.15	00-15-58-E7-24-BA	[REDACTED]	Supprimer []
4	192.168.182.10	00-15-58-E7-5B-22	[REDACTED]	Déconnecter []

correct settings..

On the client devices :

- check the network settings: run « `ipconfig /all` » on Windows, « `/sbin/ifconfig` » on Linux ;
- if they are not correct, update them. For devices that use dynamic IP addresses, send again a DHCP request : « `ipconfig /renew` » on Windows, « `dhclient eth0` » on Linux.

If the interface is not configured, check the cable connections and make sure that DHCP frames of your client pass on the network (use the network analyser "Wireshark" for example). On ALCASAR, you can see incoming DHCP requests by running the command « `journalctl -f` » or by displaying the terminal 12 (<Alt> + F12).

```
Dec 29 22:31:27 alcasar coova-chilli[22991]: chilli.c: 2694: New DHCP request from MAC=08-00-27-E7-EA-89
Dec 29 22:31:27 alcasar coova-chilli[22991]: chilli.c: 2661: Client MAC=08-00-27-E7-EA-89 assigned IP 192.168.182.129
```

- Connection test to the portal : Send a ping request to the IP address of ALCASAR. If an error occurs, check the cable connections and the network settings.
- Name resolution test : On Windows and on Linux, run « `nslookup alcasar` ». The result should be the @IP ALCASAR. In case of failure, If not, check that ALCASAR is the DNS server of the client.
- The ACC: On a client, with a browser try to connect to ALCASAR (`http://alcasar`).
- Internet Connection test : Try to visit a site on Internet. ALCASAR must "intercept" your request and display the login window.

9.5. Connection to ALCASAR with a serial terminal

It can be useful to use a keyboardless and screenless server. Below, the tutorial explains how to connect to a serial terminal (thank you [Igor Popowski](#)) :

<p>File <code>/etc/inittab</code> :</p> <ul style="list-style-type: none">• save the original : <code>cp /etc/inittab /etc/inittab.save</code>• edit the file : <code>vi /etc/inittab</code> before this line : « # Single user mode », add the following lines: <code>#connexion au terminal serial</code> <code>s0:2345:respawn:/sbin/agetty -L 9600 ttyS0 vt100 -f /etc/issue</code> then save « Esc » then « :wq! »	<p>File <code>/etc/securetty</code> :</p> <ul style="list-style-type: none">• save the original : <code>cp /etc/securetty /etc/securetty.save</code>• edit the file : <code>vi /etc/securetty</code> add one of the two following line at the end of file: <code>ttyS0 if using a 9-pin serial port</code> <code>ttyUSB0 if using a Serial / USB</code> and save «Echap» and « :wq! »• run the command « <code>init q</code> » to account for this change.
<p>To display the output of the boot in GRUB, edit the file <code>/boot/grub/menu.lst</code></p> <ul style="list-style-type: none">• save the original: <code>cp /boot/grub/menu.lst /boot/grub/menu.lst.save</code>• in the section 'title linux' after adding <code>vga=791</code> to end of line : <code>console=tty0 console=ttyS0,9600n8</code> by standard serial port <code>console=tty0 console=ttyUSB0,9600n8</code> in USB port	

Connect your management station to ALCASAR with a null modem cable on the serial port COM1 (or through a serial/usb adaptator).

Configure « PuTTY » to use this COM1 serial connection in vt100 mode.

9.6. Problems experienced

This chapter presents feedbacks of organizations who have faced problems and have solved them.

a) On some sites, pictures are not displayed

When the domain names and URLs filtering is enabled, by default, ALCASAR filters links without domain name (links containing IP addresses). Thus, pages containing this kind of links are partially displayed.

To prevent from this problem, two solutions : uncheck the « IP » box from the blacklist (cf. § 5.1.c) or save the IP addresses contained in these links as "Domain names rehabilitated" (cf. § 5.1.c).

For example, the site "leboncoin.fr" hosts its pictures on the following IP addresses : 193.164.196.30, .40, .50 and .60 and 193.164.197.30, .40 and .50.

b) Navigation impossible with some antivirus

Disable the « proxy-web » function integrated in some antivirus. In Trend-Micro antivirus, for example, this function relies on a whitelist/blacklist downloaded from the servers of Trend Micro (backup30.trendmicro.com, etc.) that analyses/validates each request of a website... A limited rights user can enable it.

To avoid all inconvenience of this function incompatible with ALCASAR, it is better to stop the service « Proxy Trend service » and to restart the computer.

c) Windows Stations previously connected to a public hotspot

When a system connects to a "public hotspot", it provides network parameters and a lease time which determines the validity time of these parameters. Windows XP stations do not reset these settings during a reboot.

Thus, even if they change of wifi network, they will try to connect with the parameters of the previous hotspot. This problem is recognized by Microsoft that offers the following solution: Manually force the refreshing of the ip address with the command « `ipconfig /renew` ».

d) Windows clients with static addressing

It is necessary to add the DNS suffix « localdomain » (Network configuration / Advanced / DNS).

e) No Internet browsing but the browser accesses the homepage of ALCASAR (<http://alcasar>)

 This can occur after a complete reinstallation of the portal or after an update with a change of the server certificate. Browsers display the following pages when they attempt to access a website:

 Impossible d'afficher la page
La page que vous recherchez est actuellement indisponible. Le site Web rencontré peut-être des difficultés techniques, ou vous devez modifier les paramètres de votre navigateur.

Essayez de la manière suivante :

- Cliquez sur le bouton  Actualiser ou recommandez ultérieurement.
- Si vous avez entré l'adresse de cette page dans la barre d'adresses, vérifiez qu'elle est correcte.
- Pour vérifier vos paramètres de connexion, cliquez sur le menu Outils, puis sur Options Internet.. Dans l'onglet Connexions, cliquez sur Paramètres. Les paramètres

With IE6

 Internet Explorer ne peut pas afficher cette page Web
Essayez la chose suivante :
[Diagnostiquer les problèmes de connexion](#)
[Informations](#)

With IE 7 - 8 and 9

Échec de la connexion sécurisée
Une erreur est survenue pendant une connexion à 192.168.182.1.
Vous avez reçu un certificat invalide. Veuillez contacter l'administrateur du serveur ou votre correspondant de messagerie et fournissez-lui les informations suivantes :
Votre certificat contient le même numéro de série qu'un autre certificat émis par l'autorité de certification. Veuillez vous procurer un nouveau certificat avec un numéro de série unique.
(Code d'erreur : sec_error_reused_issuer_and_serial)

La page que vous essayez de consulter ne peut pas être affichée car l'authenticité des données reçues ne peut être vérifiée.
■ Veuillez contacter les propriétaires du site Web pour les en informer.

[Réessayer](#)

With Mozilla

This is because browsers try to authenticate the ALCASAR portal using an old certificate. The old certificate must be deleted on the clients' browsers (« Tools » / « Internet options » / tab « content » / button « Certificates » / tab « Root certification Authority ») to be replaced by the new one as described in chapter §2.2.c.

f) No Internet browsing but the « Trusted sites » section is filled in

ALCASAR verifies the validity of domain names entered in this section (cf. § 4.7.a). If a domain name is not valid, the 'chilli' service can no longer start. Then, change the invalid domain name and restart the 'chilli' service with the command « `service chilli restart` ».

g) Operating system and memory overload

The Linux system always attempts to use the maximum amount of memory (RAM) available. On the homepage of the ACC, the bar graph indicating the use of the memory can be regularly beyond 80 percent and can turn red. This is normal. If the system needs more memory, it will use the swap. This swap is an area of the hard disk used when your computer runs out of RAM but this "memory" is approximately 1000 times slower. If you notice that the system uses swap space (> 1%), you can consider increasing the RAM to significantly improve system responsiveness especially when the domain names and URLs filtering is enabled. You can display the system load on the home page of the ACC in 'System /Load system', or in a console with the commands « `top` » ou « `uptime` » :

- 3 values shown represent the average system load average for the last hour, the five last hours and the last 15 minutes. The average load is the number of processes waiting for CPU usage.
These values are normally less than 1.
- A value greater than '1 .00' results from an under-sized server (especially if it affects the three values (long-term overload).
- Search the process which represents a high proportion of the load (command « `top` »).

10. Security

On the consultation network, ALCASAR is the Internet Access Controller. It also helps to protect the network from external threats or from internal threats. To this end, it includes:

- protection credentials theft. The authentication flow between devices and ALCASAR users are encrypted. Passwords are stored encrypted in the database;
- protection against forgetting to log out. The attribute "time limit of one session" (cf. § 4.1) allows to automatically disconnect a user after a pre-set time;
- protection against failures (network or user devices). Devices that do not respond during 6 minutes are automatically disconnected;
- protection against session hijacking by spoofing network settings. This spoofing technique exploits the weaknesses of "Ethernet" and WIFI protocols. To reduce this risk, ALCASAR incorporates an auto-protection process which is running every 3 minutes (`alcasar-watchdog.sh`) ;
- protection of the bootloader (GRUB) of the portal with a password. This password is stored in the file « `/root/ALCASAR-passwords.txt` ».

The mere presence of ALCASAR not guarantee an absolute security against all threats, including internal threat (hacker on the ALCASAR network). In most cases, this threat remains very low. Without being paranoid and if you really need a high security, the following measures can improve the overall security of your system.

10.1. On ALCASAR

- Choose a strong "root" password (you can change it by running the command « `passwd` ») ;
- Protect your "ALCASAR" server and ISP's equipment to prevent unauthorized access, theft or installation of equipment between the modem and ALCASAR (locked premises, padlocks, etc.).
- configure the BIOS so that only the internal hard disk drive is bootable.
- Set a password to access the BIOS setup.

10.2. On the network

a) Network type "hotspot"

If you want to set up free access computers, it may be interesting to

Paquetage	Version	Révision	Statut
<input checked="" type="checkbox"/> xguest Creates xguest user as a locke...	1.0.10	9.mga3	

xguest - Creates xguest user as a locked down user

Installing this package sets up the xguest user to be used as a temporary account to switch to or as a kiosk user account. The user is only allowed to log in via gdm. The home and temporary directories of the user will be polyinstantiated and mounted on tmpfs.

install products ensuring both the protection of the privacy and security of these computers (like “cybercafe” computers). These products allow the user to be compartmentalised in a sealed environment. At the end of his session, the user environment is totally cleaned.

- On Linux, you can install the product "xguest" (it is provided natively with Mageia, Mandriva, Fedora, RedHat and Centos distributions)
- On Windows, you can chose one of these not free projects : “Openkiosk”, “DeepFreeze”, “Smartshield” and “reboot restore RX”. *They save all the computer and restore it after a reboot.*
- Microsoft gave the software “Steady state” for XP/Vista. This software is no longer supported.

On WIFI Access Points (AP) :

- Enable the “client isolation” option (also called wireless isolation). It prevents a user connected to an access point to communicate with another one connected to the same access point. They can only connect to Internet via ALCASAR.
- enable WPA2-Personal encryption (also known as WPA2-PSK). It avoids user to listen WIFI traffic (even if the key is the same for everyone). You can choose a simple WPA2 key as your organization name for example.



On switches of wired Ethernet networks :

- enable "DHCP snooping" on ALCASAR port and on interswitch ports. This will prevent false (fake) DHCP servers.

b) Controlled networks

On these networks, the stations must be protected by physical measures to ensure their integrity. Physical access to network consultation must be secured by the following:

- disconnect unused network jacks;
- on WIFI hotspots:
 - camouflage the network name (SSID)
 - enable encryption WPA2 "personal" with a strong key;
- on Ethernet switches:
 - Enable the "lock port" ("Port Security" function) to associate the MAC addresses of devices to the physical ports of switches;
 - select the "DHCP snooping" function on the port used by ALCASAR and on the interswitch ports. This will prevent false DHCP servers (Fake DHCP servers).

Devices can (should) incorporate several security features such as locking the BIOS setup, locking the desktop configuration, antivirus, automatic update security patches (patch), etc.. To facilitate downloading of security patches or antivirus updates(cf. § 4.7), ALCASAR can authorize devices to automatically connect without authentication on sites specifically identified.



Make your users aware of these two security features:

- **Password must be changed**
- **Credentials must remain confidential (Each user is responsible of "friend's session" using his credentials).**

11. Annexes

11.1. Useful commands and files

The administration of ALCASAR can be done from a command line interface (as 'root'). All these commands (shell scripts) begin with "alcasar-..." and are located in the directories « `/usr/local/bin/` » and « `/usr/local/sbin/` ». Some of them rely on the central configuration file of ALCASAR (« `/usr/local/etc/alcasar.conf` »). The "-h" argument lists available command line arguments.

- `alcasar-bl.sh {-on/-off}` : enables / disables the domain and URL filtering;
 - `{-download}` : download and apply the latest version of the BlackList (BL);
 - `{-adapt}` : adapt the BL to the ALCASAR architecture ;
 - `{-reload}` : activate the freshly downloaded BL.
- `alcasar-bypass.sh {-on/-off}` : Enables/disables the « BYPASS » mode;
- `alcasar-CA.sh` : creates a local CA and server certificate. Requires the restarting of Apache web server (`service httpd restart`) ;
- `alcasar-conf {-apply}` : apply the network settings according to the configuration file;
- `alcasar-dg-pureip.sh {-on/-off}` : enables / disables the filtering of URLs containing IP addresses (instead of a domain name);
- `alcasar-havp.sh {-on/-off}` : enables / disables the antivirus filtering on WEB flows;
 - `{-update}` : updates the antivirus database (clamav) ;
- `alcasar-https.sh {-on|-off}` : enables / disables encrypted authentication flows;
- `alcasar-load-balancing.sh` : Aggregates several Internet connections. IP addresses, bandwidth and MTU of available modems/routers must be configured in the file `/usr/local/etc/alcasar.conf` to work properly. Remember, the script is automatically launched when the system starts up only if the MULTIWAN parameter is set up in the file `"./usr/local/etc/alcasar.conf"`. To ensure the script is running properly, execute the command : `ip route`. ("start", "stop" and "status" are the options available for this command).
- `alcasar-logout.sh {username}` : logs off user <username> from all his sessions;
 - `{all}` : logs off all the logged users;
- `alcasar-mysql.sh {-import fichier_sql.sql}` : imports a user database (overwriting the existing one)
 - `{-raz}` : resets the user database;
 - `{-dump}` : creates an archive file of the current user database in « `/var/Save/base` » ;
 - `{-acct_stop}` : stops the open accountability sessions;
- `alcasar-nf.sh {-on/-off}` : enables / disables the filtering of network protocols;
- `alcasar-rpm-download.sh` : Downloads and creates an archive file of all the necessary packets to install ALCASAR.
- `alcasar-safesearch.sh {-on/-off}` : enables / disables SafeSearch filter from the major search engines (blocks inappropriate or explicit content for young people);
- `alcasar-version.sh` : compares the current ALCASAR version with the latest one available on the Internet;

Each service provided by the server is supported by a "daemon", which is managed automatically start:

- View the status of a particular daemon (works for most daemons)
`/etc/init.d/<nom du service> status`
- Restart / stop a daemon:
`/etc/init.d/<nom du service> {start|stop|restart|reload}`

Info : a super daemon checks every 10 minutes service status ("alcasar-daemon.sh").

If you need to edit a file, you'll probably need to know some basic features of the text editor "vi". To help you you can consult a summary of useful commands: <http://www.computerhope.com/unix/uvi.htm>.

Sauvegarder un fichier - quitter vi	
<code>w</code>	sauvegarde le fichier (penser à write)
<code>wq</code>	sauvegarde le fichier et quitte vi (write and quit) équivalent à :x
<code>q</code>	quitte vi sans sauvegarder les modifications (quit)
<code>q!</code>	quitte immédiatement, sans rien faire d'autre
<code>w <nom_de_fichier></code>	sauvegarde le fichier sous le nom <nom_de_fichier>
<code>w</code>	sauvegarde le fichier (penser à write)
<code>wq</code>	sauvegarde le fichier et quitte vi (write and quit) équivalent à :x
<code>q</code>	quitte vi sans sauvegarder les modifications (quit)
<code>q!</code>	quitte immédiatement, sans rien faire d'autre
<code>w <nom_de_fichier></code>	sauvegarde le fichier sous le nom <nom_de_fichier>

Copier-Coller	
<code>Y</code>	copie une ligne, donc la place dans un tampon, pour pouvoir ensuite la coller (yank, tirer)
<code>nY</code>	copie <i>n</i> lignes
<code>p</code>	colle les lignes après le curseur (paste, coller)
Annuler ou répéter des modifications	
<code>u</code>	annule la dernière modification (undo, défaire) (un point) répète les dernières modifications

Insérer du texte	
<code>i</code>	active le mode insertion
Supprimer du texte	
<code>x</code>	supprime un caractère (« faire une croix dessus »)
<code>dd</code>	supprime une ligne
<code>ndd</code>	supprime <i>n</i> lignes

Rechercher et remplacer	
<code>/motif</code>	recherche motif en allant vers la fin du document
<code>n</code>	répète la dernière recherche (next, suivant)
<code>N</code>	retourne au résultat de la précédente recherche effectuée
<code>:%s/motif/motif2/g</code>	recherche le <i>motif</i> et la remplace par <i>motif2</i>

11.2. Helpful authentication exceptions

The following values allow network devices to access WEB sites without authentication process in order to connect to the following services:

- The following values allow client devices to access the Internet without authentication in order to connect to the following services:
- perform a test of Internet connection,
- Microsoft system update,
- “TrendMicro” and “Clamav” antivirus update,
- check Mozilla version and its modules,
- ...

Sites, IP addresses or URLs can be configured in the ACC or in the following file “[*/usr/local/etc/alcasar-uamallowed*](#)”:

```
uamallowed="activation.sls.microsoft.com"
uamallowed="www.msftncsi.com"
uamallowed="crl.microsoft.com"
uamallowed="download.microsoft.com"
uamallowed="download.windowsupdate.com"
uamallowed="go.microsoft.com"
uamallowed="ntservicepack.microsoft.com"
uamallowed="stats.update.microsoft.com"
uamallowed="update.microsoft.com"
uamallowed="update.microsoft.com.nsatc.net"
uamallowed="pccreg.trendmicro.de"
uamallowed="pmac.trendmicro.com"
uamallowed="tis16-emea-p.activeupdate.trendmicro.com"
uamallowed="update.nai.com"
uamallowed="download.mozilla.org"
```

Domains can also be configured in the ACC or in the file “[*/usr/local/etc/alcasar-uamdomain*](#)”:

```
uamdomain=".download.microsoft.com"
uamdomain=".download.windowsupdate.com"
uamdomain=".ds.download.windowsupdate.com"
uamdomain=".microsoft.com"
uamdomain=".update.microsoft.com"
uamdomain=".update.microsoft.com.nsatc.net"
uamdomain=".windowsupdate.com"
uamdomain=".windowsupdate.microsoft.com"
uamdomain=".trendmicro.com"
uamdomain=".activeupdate.trendmicro.com"
uamdomain=".akamaiedge.net"
uamdomain=".akamaitechnologies.com"
uamdomain=".clamav.net"
```

It is necessary to restart the “chili” service if these files are changed directly.

11.3. User sheet

ALCASAR is now deployed in your organization. ALCASAR is a network access controller, it means that when you will go on the Internet, the following login window will be displayed. (Both fields are case sensitive; "smith" and "Smith" are two different users).



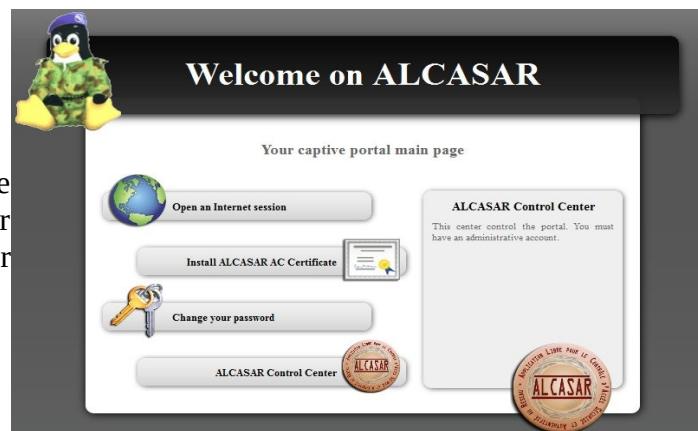
When login is successful, this popup window appears. It allows you to logout from ALCASAR. This window provides information on your account permissions (lease time, download limits, connection history, etc)..

If this window is closed when you want to logout, just type "logout" in your browser address bar.



If login fails, a message will give you more information: Expired account, maximum download volume reached, attempts to login outside the allocated slot times, etc.

You can access your account details(login/logout, change your password, installation of the certificate in your browser) by entering "ALCASAR" in your browser address bar.



The portal embeds a WEB flow antimalware and a website filtering to prevent unauthorized web browsing. It also helps to know if there is a problem with the Internet connection (hardware failure or ISP network failure). The following pages are displayed:

